



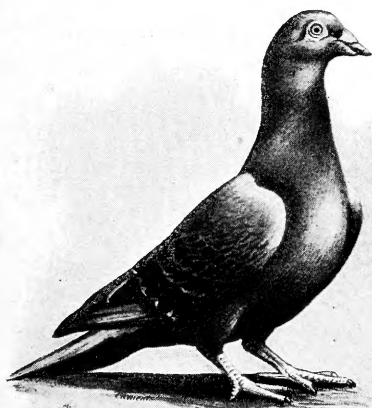


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GEO. E. HOWARD,
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THE FEATHER'S
PRACTICAL
PIGEON BOOK

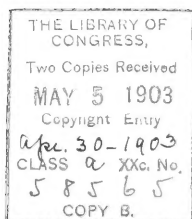
BY J. C. LONG.

Profusely Illustrated.



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Publisher's Note.

Those who are interested in pigeons will appreciate fully this contribution to pigeon literature by the eminent author, J. C. Long, who has for a life-time devoted himself to the study of these dainty and attractive pets. Mr. Long's experience as a breeder and judge of pigeons admirably fitted him for the task, and the publisher is pleased to recommend this book to everyone who cares for the pleasures of pigeon keeping. In this connection he desires to acknowledge the meritorious work of illustrating by R. Clements. The plates shown in this book are from brush-drawings portraying artistic skill and are fine portraiture of the specimens they represent, and can but prove of untold value to every fancier and breeder.

The Publisher.



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CHAPTER I.

THE ORIGIN OF FANCY PIGEONS.

The term pigeon is derived from the Latin word *Pipio*, which translated literally means a nestling bird that "pipes" or cries out, or as we know it in America a "squealer." The pigeon proper belongs to a family of birds known as Columbidae, comprising all the different varieties of doves, as well as pigeons, and forming the genus *Columba*. They are generally classed among gallinaceous birds, but as they resemble both the orders *Rassores* (Scrapers or Scratchers) and *Insectories* (Perchers) they have by some naturalists been constituted into a distinct order between the two.

While they resemble the order Gallinacea, in that their bills are comparatively short and slightly curved with a cartilaginous scale, through which their nostrils are pierced, and in their large crops and blunt claws, they differ from them in their monogamous habits, their living in pairs, and in the fact that the male shares with the female the duties of incubation and of feeding the young.

Their young, unlike those of the Gallinacea which are able to run as soon as they are hatched, are born blind and helpless and consequently must be fed by the parent birds. By a wonderful and singular provision of Nature, as the period of incubation draws to an end, the food taken by the old birds into their crops softens, and is changed into a milky fluid, known to naturalists as "pigeon's milk." This "milk" is injected into the mouths of the young birds, by a peculiar spramodic

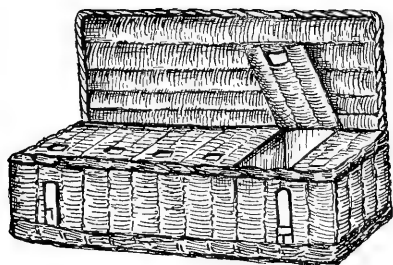
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action of the crop and neck of the parents, who take the beak of the young birds in their mouths for that purpose. This manner of feeding is kept up until the young bird is able to care for itself, which will be in about six weeks' time.

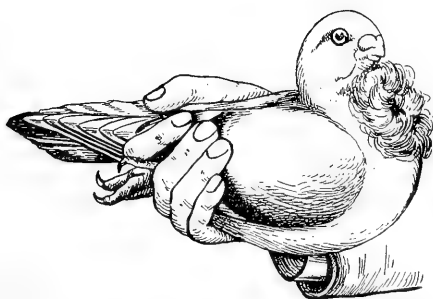
The number of species of the family Columbidae is very great, and they are found in all warm and temperate climates. Our fancy pigeons, the descendants of the true pigeons *Columba Livia* and *Columba Affinis* of which I propose treating entirely, are gregarious in their habits, social in their nature, and live in flocks, though still retaining their monogamous practice.

The origin of our various breeds of fancy pigeons is in a measure veiled in mystery. Pigeons have existed and been the companions of man, so to speak, from the earliest period of which we have any history, mention being made of them in ancient manuscripts written in the Hindu, Sanscrit, Arabian, and Persian languages, as also in various books of the Old Testament. The earliest record is said by learned writers to have occurred 3,000 years B. C. But whether the great variety of fancy pigeons we know at the present day have all descended, as many eminent naturalists maintain, from the Blue Rock Pigeon or Rock Dove, "*Columba Livia*," and the Chequered Dove House Pigeon, *Columba Affinis*," peculiar to the various countries of the Old World, is the question.

That some of our Toy Pigeons owe their origin to them there is no doubt, but such pigeons as the Carrier, Pouter, Barb, Fantail, Jacobin, and others, present characteristics of such marked peculiarity as to cause thinking men to believe that they have an origin distinct from the Blue Rock. But if such is actually the case, the varieties from which they sprang must now be extinct,



**BASKET FOR SHIPPING OR
CARRYING PIGEONS.**



METHOD OF HOLDING A PIGEON.

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for nowhere in a state of nature are any breeds of pigeons found with peculiarities that can mark them as the progenitors of any of those varieties we know to-day as high-class pigeons.

Darwin, than whom there is no better modern authority, made deep research in this direction. Being an ardent pigeon fancier himself, he had the best of opportunities to study their construction and habits, and at first inclined to the belief that most fancy pigeons sprang from separate sources, but giving it thought and being so led to experiment in crossing, he found that the tendency was to continually revert to the common origin, and that in the end his crosses produced a blue pigeon, with white rump and black bars on the wings like the Blue Rock.

We all know how, by proper selection, we can, after a time, breed all the fancy qualities out of a pigeon and have nothing left, as it were, but the frame or foundation. For instance, take the Fantail; by selecting the poorest specimens of a flock, we can, by continued breeding, bring them down to what we call a common pigeon with twelve feathers in the tail, and as distinct in shape and action from the Fan as well can be.

So this process of evolution upward, while necessarily slower than the breaking-down process, can, by the selection of the fittest, finally be brought about. Doubtless our ancient pigeon fanciers taking advantage of some marked peculiarity in some of their feathered pets by crossing them together fixed these qualities, and so by careful selection of their progeny and mating back to the parents, a variety distinct from the Blue Rock was established. From this variety it may be there was a sport, and this again being protected and preserved, established another variety. This is, of course, all con-

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jecture, for there is no written nor known history to establish this fact, but as all the experiments and study of Darwin and other naturalists point to the Blue Rocks as the common origin of fancy pigeons, we who have not given the matter deep thought and scrutiny, as we can not bring convincing proof to contradict, can do no better than accept this theory, and believe in the principle of evolution and the survival of the fittest as applied to the pigeon family.

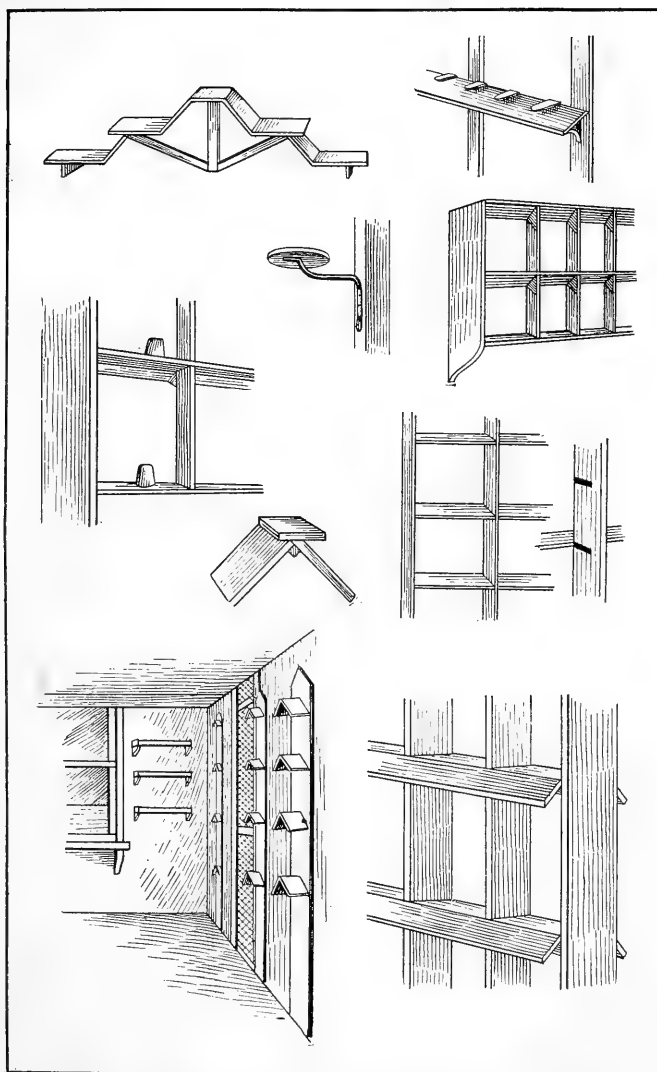
The Blue Rock Pigeon or Rock Dove and the Chequered Dove House Pigeon, are what are known as true pigeons, and differ from the Dove proper, in that they are not arboreal in their habits and are of a domestic rather than a roving disposition, preferring to live in colonies and having a fixed abode, and being capable of domestication. They are found in most parts of Europe, Asia, and Africa in a wild state, making their homes about cliffs and among the rocks and caves where they live in large families, never going far from home. They build their nests on the rocks and they are composed of twigs, rough grasses, and other coarse material placed loosely together. The female lays two white eggs, and they produce several pairs in a season, the male assisting the female in the work of incubation. The Blue Rock is rather smaller than the Dove House Pigeon, and, as its name would indicate, has plumage of a light grayish-blue, with a beautiful tinge of green about the neck, variegated with purple and bronze reflections. The head is quite long, eyes orange-red, the beak thin and black in color, legs short, feet red and tipped with nails the color of the bill. Across the lower part of the wings are two black parallel bars, the rump is white, the tail narrow, composed of twelve feathers, each ending in a black bar which, when closed, forms a bar

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across the tail. This type of pigeon is so often seen among our flocks of domestic pigeons that there will be no difficulty in recognizing it and proving its claim as one of the ancestors of our domestic flocks at least.

The Dove House Pigeon (*Columba Affinis*) is another wild variety of pigeon peculiar to all parts of the Old World, and supposed by many to be the true progenitor of our whole family of domestic pigeons. Like the Blue Rock, it frequents rocks, cliffs, and caverns, but is more susceptible of domestication than the true Rock. It is a trifle larger in size and differs from it somewhat in color, being a trifle darker and with wing-coverts chequered or dappled; in other respects it is the counterpart of the other. It is also said to be more prolific than the Blue Rock, and, if taken young, easily tamed and domesticated, and does not retain the wild, suspicious nature of the Blue Rock. But while this variety in its instincts and habits seems to have good grounds on which to base its right to be called the originator of all our fancy breeds, there is no evidence to prove that it may not have derived its own origin as claimed by Darwin, from the Blue Rock. This, however, is a question I am not inclined to argue, as its settlement can not affect the status of the pigeon as we know it to-day.

Admitting, as scientific research seems to prove, that these two varieties of wild pigeons are the source from which all our common and fancy pigeons sprung, it seems strange that we see none of the variations in form and shape to-day among our common flocks that must some time have formed a basis from which to breed such birds as the Carrier, the Pouter, the Jacobin, and the host of feathered beauties we now know. Who in our time has ever heard or known of anyone producing from common pigeons any breed of fancy pigeons that



ALL KINDS OF PERCHES FOR PIGEONS.

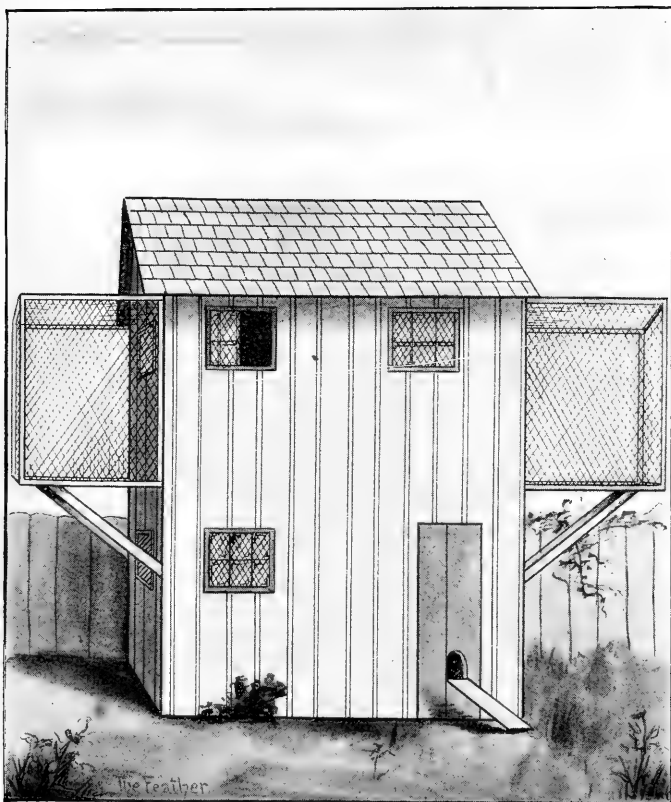
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could lay claim to an established variety, breeding true like the Barb, the Turbit, or the Owl? Yet it seems strange if such sports occurred in earlier times that we never see an instance of it now. Taking this all into consideration, is there not apparently good grounds for the belief that some entertain, that a number at least of our fancy pigeons must have had a more aristocratic origin than the wild Blue Rock?

I have here given a short history of the supposed origin of our domestic pigeons, and now turn to the pigeon as we know it in the United States. The only bird known to us as a pigeon, indigenous to the United States, is the wild or "Passenger Pigeon." This bird being strictly arboreal in its habits, that is, making its home in the woods and building its nests and perching in trees, is more properly a dove, and, therefore, the term pigeon is a misnomer. In form and shape it varies greatly from the true pigeon, and while an occasional specimen has been kept alive in the lofts of some fanciers, it can not be said to be capable of domestication, for, as a rule, it does not brook confinement and soon pines away and dies.

As we find by this that we have no pigeons native to this country, we must naturally infer that all our common and fancy pigeons have been imported from foreign countries, but from what particular section of the Old World they first came history does not inform us. It is reasonable to suppose, however, that they were introduced by both the English and Dutch settlers, as both nations are known to have had lovers and breeders of pigeons before the United States were first settled.

Naturally after becoming domiciled in their new homes and finding nothing of the kind native to the country the first settlers must have had a longing for a



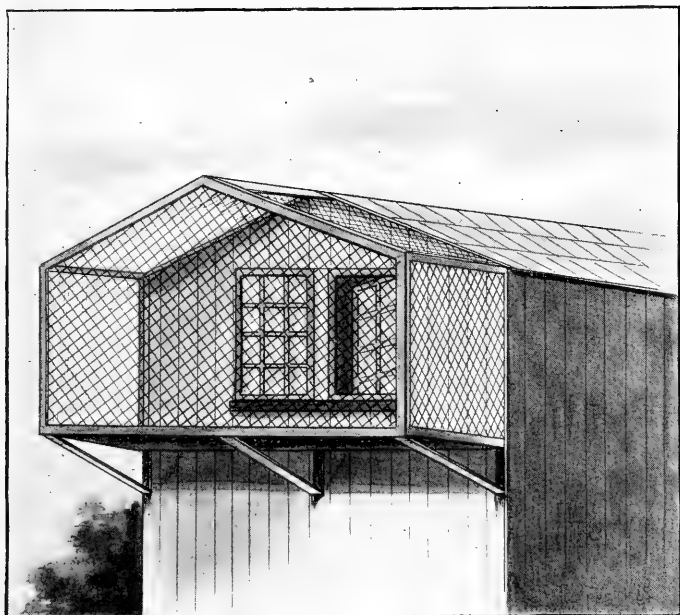
A COMBINATION HOUSE.

The plan shown here is one that will meet with universal favor with the fancier who has limited space, and desires to keep poultry in connection with pigeons. It is a two-storied building, with the lower half arranged for poultry and the upper half for pigeons, with an aviary on two ends. It is unnecessary to give detailed plans of the building, which, of course, would have to be varied to suit the convenience of the builder. The house should be substantially built, and have steps or ladder leading from the first to the second floor. The windows in front of house should be covered with mesh wire to prevent escape of birds.

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few of their old companions, and so some of the returning ships were commissioned to bring out on their return trip a few pairs. Thus, no doubt, was the foundation laid for the immense numbers now owned and bred every season throughout the Union. It may be that the Huguenots were among the first to introduce them, as, in my researches, I find that many of them were weavers of silk and other fabrics, and great fanciers of pigeons and birds, and that when driven out of France into England they took their pets with them, settling in and about Spitalfields, which we know is a great center of fanciers to-day. In course of time many Huguenots found their way to America, and it is not unreasonable to suppose brought some of their pets with them and thus aided in laying a foundation for the fancy here.

From inquiries made some years ago, however, I am inclined to believe that Philadelphia and Baltimore were about the first ports through which fancy pigeons were introduced, and as these cities have long been great pigeon centers, I think this will tend to bear me out in my belief. As far back as I have been able to trace is about 125 years, and pigeons were then owned and bred in Philadelphia. Neither New York nor Boston, to my knowledge, furnishes any record of importations previous to this. What St. Augustine or New Orleans might furnish I am unable to say, but probably, although these points were among our earliest settled, no record of so small a matter to the earlier historians was ever kept, and so the subject is shrouded in oblivion. In these later days we know that fancy pigeons have been brought to us from England, Scotland, Belgium, Germany, the Mediterranean districts, and from India, and from these importations large families have descended



PLAN OF AVIARY FOR LOFTS.

This arrangement is admirably adapted to those who are not situated so as to have room for the construction of a separate house, and desire to keep a few pigeons for the pleasure of it. Such an arrangement is easily applied to the lofts of barns, stables, and other outbuildings on the place with excellent results. No extensive alterations are necessary, and the interior of loft may be made to conform with the plans hereafter shown.

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to delight America's fanciers, both old and young. Thanks to the energies of these fanciers, the quality of their pigeons has reached a higher standard to-day than has ever been known before, and to help-maintain this standard and keep up the interest of young fanciers this work is published.



CHAPTER II.

ACCOMMODATIONS FOR PIGEONS.

Having, as it were, in the preceding chapter, confirmed our belief in the origin of our numerous families of domestic and fancy pigeons, we pass to a subject of fully as much, if not more, importance to the amateur and novice, that of providing proper accommodations for the pretty pets.

Pigeons can be bred and raised almost anywhere that shelter can be provided, and they sometimes do with very little shelter; in fact, I have seen them make a home in a common soap-box, nailed to the side of a barn, where they seemed as happy and contented as in more luxurious quarters. The flocks I have in mind were quite numerous and were accommodated with shelter by nailing a variety of small boxes to the gable end of a barn; here they raised their young, and I have seen squealers in the nest, with the snow all about the sides of the boxes, and the mystery was that they had not frozen to death; but they seemed fat and hearty, and there was no question raised as to their hardiness. Such a life must naturally produce a hardy race, but would not likely prove successful with the majority of high-class and Toy Pigeons. But while they may succeed with limited and unpretending quarters, still accommodations that allow of their being well cared for, and in which they can be visited with comfort and pleasure, are without doubt the most satisfactory to the breeder and fancier.

These accommodations can be suited to the space

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available by the fancier. It may be a box nailed against the gable end of the house or barn ; it may be a limited space in the peak of the same ; it may be a larger room in that house or barn, or it may be a commodious building erected for the purpose in the rear of the home lot. Wherever your fancy dictates or your means will allow, there can your pigeons find a home. They are not fastidious, no pride governs their choice, and they build, breed, and raise their little families as happily and contentedly in a rough box as in the most conveniently and comfortably arranged aviary. So if you can do no better and must have a few pigeons, take a box about 10 inches deep, divide it into as many apartments 10 inches square as size of your box will allow, then cut holes in the bottom of the box to correspond with each of the apartments you have made, say 4 inches wide and 5 inches high, nail an alighting-board 4 inches wide and 6 inches long to the floor of each apartment, letting as much as possible of the board project through the holes you have cut, after giving it a secure attachment to the floor of its apartment. When all this is done, you can fasten it to the side of any building, or fence even, if high enough from the ground to be out of the reach of cats and dogs. By placing the open side of the box to the building, it answers in place of back and saves adding weight to it by nailing on a back.

As far as possible place it in a position facing the south, and protected from the cold northerly winds. Also make it water-tight, if you can, by covering with some water-proof material. This will make a very primitive pigeon-house, but I have known many a boy made happy over a no more elegant house, and the pigeons are just as happy here as in a palace. The *house* can be placed high enough to be reached by a short lad-

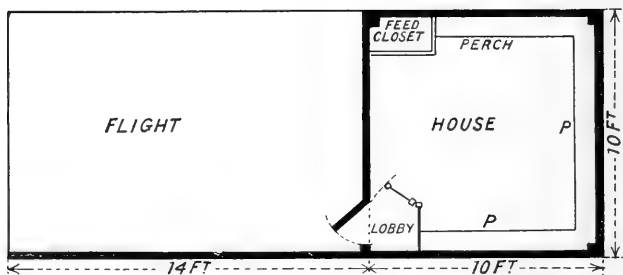
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der and thus surely be out of harm's way. After the house is arranged and your pigeons mated, by confining the pairs in the little apartments for a week or so, they will become wonted and be likely to stay and live contentedly in their new home.

A house can be made with quarter pitch roof if one is handy with tools, or a carpenter can be employed to make one that will accommodate six or eight pairs, by making an upper and a lower floor, and dividing each into three or four apartments with entrances apart from each other, that is on each side of the house, and not directly over each other. This can be erected on a pole, and reached when necessary by a ladder. Finished and painted neatly it can be made very ornamental.

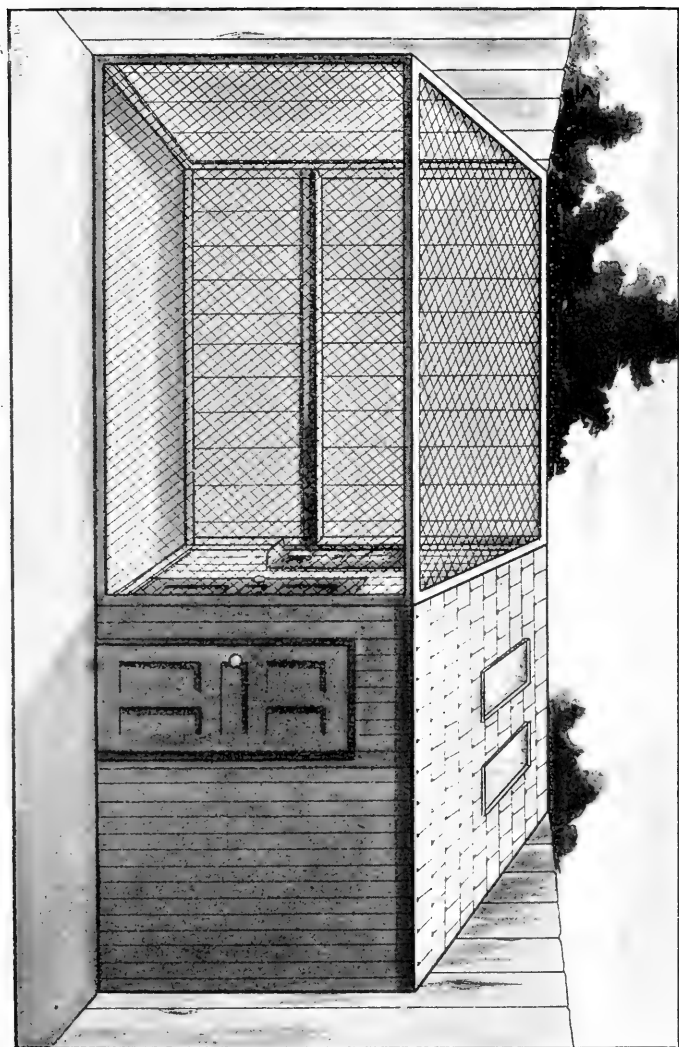
If you have an out-building of any kind, where a commodious room can be arranged, looking to the south, you can arrange more elaborate quarters and be able to enjoy your birds in a greater degree, likewise controlling their actions more directly. This room needs plenty of light, and should be provided with one or two large windows even if you have to place them there yourself. Before arranging the nesting-places, get some old roofing-tin, cut it into strips 2 feet wide, nail this all around the sides where the floor and the walls unite, letting it project 6 or 8 inches over the floor, and the balance up the sides of the walls; this will render it proof against rats and mice, the bane of pigeon breeders. Cover every weak spot where you think the vermin can get in, with pieces of tin, then give it a thorough coating of whitewash or white paint, as pigeons are fond of white, and you are ready to place your nesting-boxes and perches.

First arrange a tier of shelves about 15 inches wide and 12 inches apart; divide these into apartments about



PLAN OF HOUSE FOR THE BACK YARD.

The plan herewith shown is an excellent one for the fancier who has a back-yard and desires a special house for his birds. The dimensions of houses may be varied to suit the size of yard, running from fence to fence. The framework should be substantially built, and boarded on the outside with tongued and grooved siding; the inner side should be boarded also with the same kind of material, and, if possible, the space between the walls should be filled with sawdust. The floor should be made of tongued and grooved material securely nailed to the timbers below. The underneath part of the roof should be lined with the same material as the sides, and the outside of roof should be shingled or covered with tin. Where the house joins the fence, the cracks should be well covered to prevent rain from leaking through, and every precaution should be taken to keep the interior of house free from dampness.



A HOUSE FOR THE BACK YARD.

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18 to 20 inches long, by upright partitions reaching out flush with the edge of the shelf. This gives an apartment for each pair, gives them the seclusion they prefer, and prevents in a measure quarrelling, a condition of affairs very necessary to successful breeding.

These little apartments can be again sub-divided by a half partition, say 11 inches long and 5 inches high; this allows space for two nesting-boxes or pans, whichever is used, and permits of the hen making a second nest before the young are ready to leave the first, and allowing the old birds to carry on the incubating process without being annoyed by the youngsters begging to be fed, as they are continually doing when not separated from the parent birds. In front of this middle partition place a strip about 3 inches wide extending from side to side; this will keep the nest-pans in place, and prevent the squabs coming to the front of the apartment should they work themselves out of the nest, and falling to the floor, where they are liable to be maltreated and killed by old birds of other pairs. Occasionally you will find birds, both male and female, so kindly tempered as to feed every young squab that comes to them to be fed; but they are few, and it is to guard against the vicious that I advise this precaution.

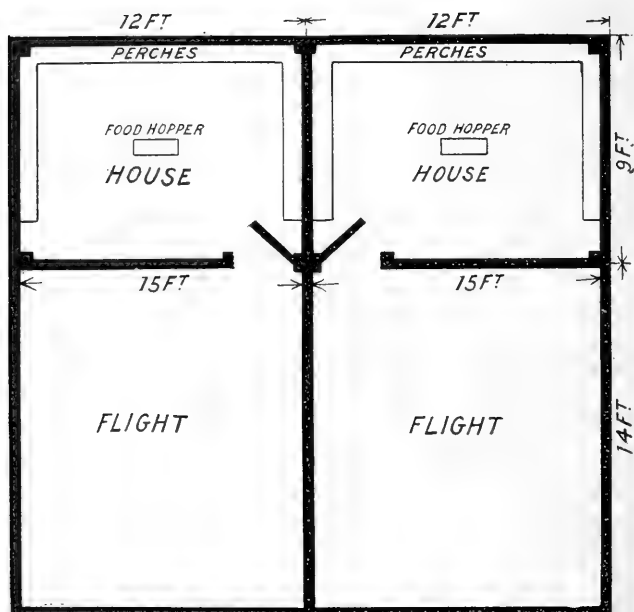
To the front of every nesting-place I would have fitted a movable wire door or screen made of two-inch mesh wire. This will enable you to confine your pairs to the particular nest you select for them until they become settled, when it can be removed entirely and laid aside until needed again. The fastening of these doors to the apartment can be made a matter of choice; either hanging them on the side, so as to swing outward, or suspending them from the shelf above, so as to raise upward. Or they can be made in form of two doors, one

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to swing to the right and one to the left. This I think the better form, as then you can leave one of the doors closed before the nest in which the hen is sitting, thus partially secluding her.

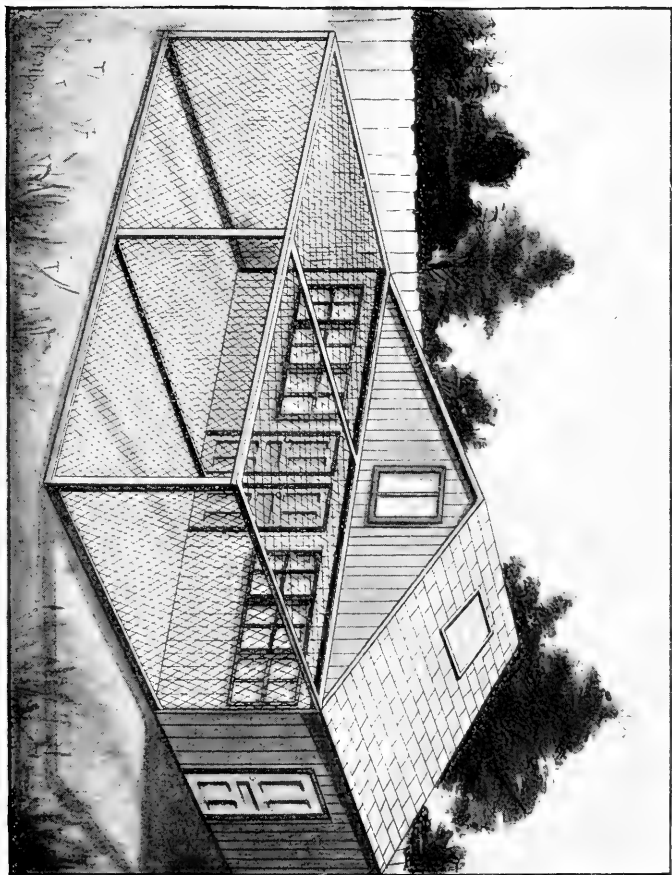
For nests there is nothing better than the circular earthen nest-pan, found at the poultry-supply stores, and made in sizes of 9, 10, and 12 inches diameter, the 9-inch being for the smaller class of pigeons, like Tumblers, Owls, etc., while the 10-inch answers for the medium-sized pigeons, and the 12-inch for Pouters, Runts, and Carriers. But you may be in a locality where such nests can not be found; in such a case tin pans can be used, such as are made from block tin, pressed. These can be nailed to a square wooden foundation, thus making them movable and preventing them from being upset. Or you can make square wooden boxes of same width as diameter of the pans. If boxes are used the corners should be fitted with triangular corner-blocks to keep the nesting-material towards the center. If the tin pans or wooden boxes are used I would advise giving them a good coating of paint. This will act as a preventive against lice, and make them easier to clean.

For nest-material there can be nothing better than pine sawdust, as this can be frequently changed and also has a tendency to keep insects away. Cedar sawdust is even better if one lives in a locality where it can be procured. You will also need perches in different parts of the room for the convenience of birds not nesting. These can be made of half-inch material, 4 inches wide. Take two pieces 5 or 6 inches long, nail two ends together, thus forming the two sides of an angle. Hang these on ten-penny nails, driven into the walls in various places separate from each other. These make the best



PLAN OF DUPLEX HOUSE.

The Duplex House may be built separately or fitted to a wall and will comfortably house from forty to fifty birds, except in the mating season when the number must be considerably lessened if the wished-for success is to be attained. The arrangement of the duplicate compartments allowing the sexes to be divided, as they should always be except in the breeding season, and the overhead loft giving freedom for a few pairs of common pigeons to be used as feeders, are decided advantages of this house.



THE DUPLEX HOUSE.

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of perches, are easily moved for cleaning, and as they accommodate but one pigeon prevent quarrelling.

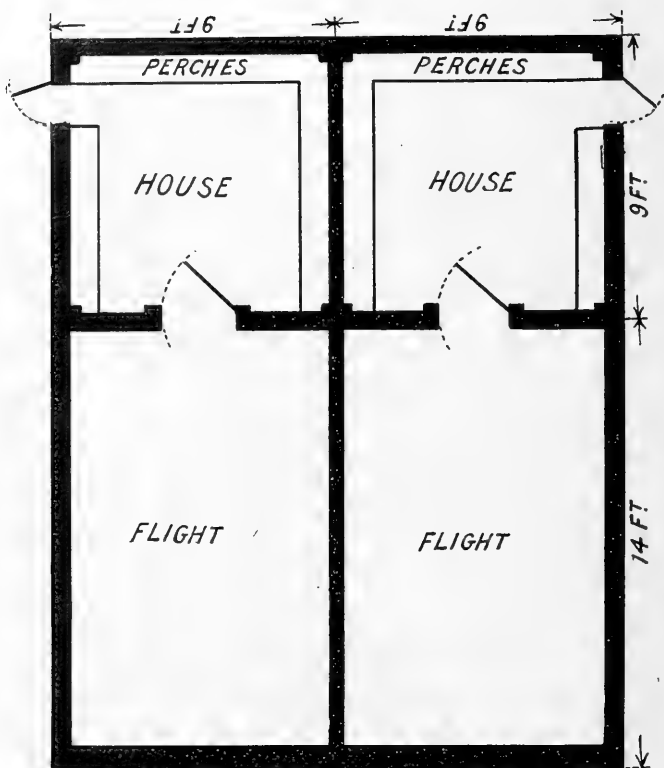
To every loft such as I have just described there should be an outside area or "fly" attached for the purpose of giving your birds, when confined, a place to sun and air themselves. This can be located immediately in front of your windows, or to one side as convenient, but should, like the windows, be on the sunny side of the house. It can be made as large as you deem advisable, and should have perches distributed about, such as are described for use in the loft. Cover it with two-inch mesh wire on sides and top, having the bottom or platform of wood made tight. If you intend permitting the birds perfect liberty after a time, to go and come as they please, you will need to construct a falling door, either on one side or the front. This can be hung on hinges and controlled by a rope and pulleys, so as to be lowered and raised at will. This door need not be over 8 inches wide and 2 feet long, unless you desire it. Two pieces should project from the platform for it to rest on when down, and in this form it will answer as an alighting-board for pigeons returning to the loft.

There should also be two or three sets of what are known as bolting-wires. At some place in the area cut the wire away and insert a board 2 feet long and 8 inches wide. In this board cut three holes 4 inches wide and 5 inches high, rounded at the top. Project from these holes an alighting-strip 4 inches wide and 8 inches long, fastening one end to the platform of the area. Take a round stick 1 inch in diameter (an old broom-handle will answer), saw this into pieces $3\frac{1}{2}$ inches long. Bore a hole $\frac{3}{4}$ of an inch deep in the middle of the stick, and an inch each way bore other holes of

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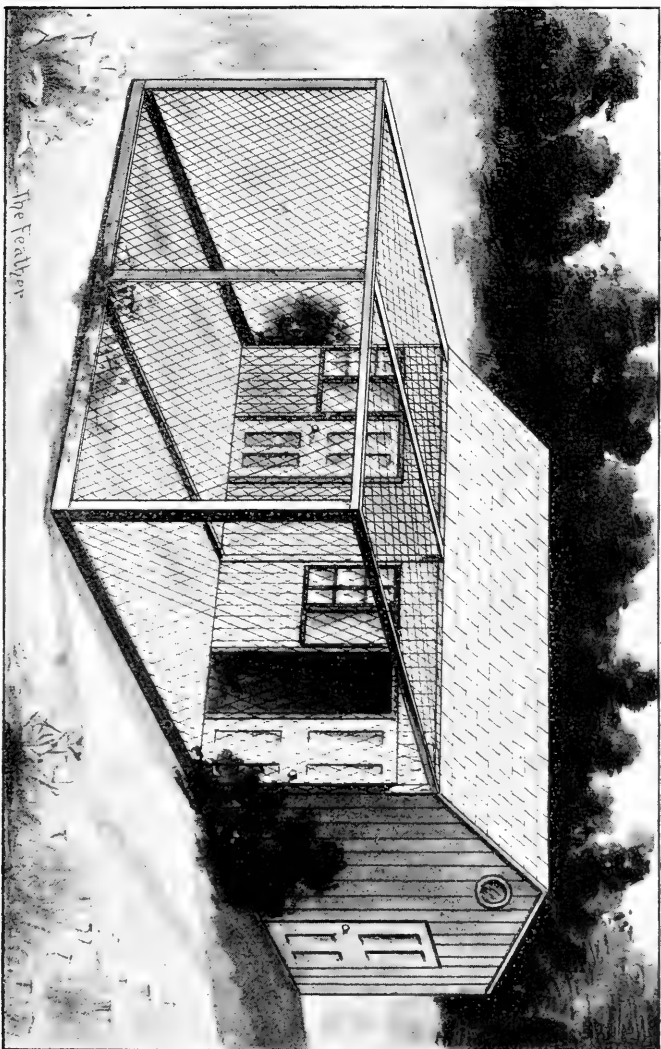
same depth; take pieces of common telegraph-wire 5 inches long and insert in these holes solidly as far as their depth will allow. Then bore in each end of the stick other holes an inch deep; in these insert pieces of wire 2 inches long. These answer for axles, as it were, for the bolting-wire to move on. After this is finished put a screw-eye on the left of the opening made in the board near the top, then insert one end of the axle in this. Place another eye on the opposite side, opening the eye so as to permit the other axle to slip into place. This you will see gives you a little swinging gate that should just about fit the hole cut in the board. By placing another piece of wire across the bottom of the hole just so the ends of the longer wires hit it, you prevent it swinging outward, while it opens easily to the inside. The object of this is to allow any belated pigeons admission to the loft after the falling door is closed, and yet preventing any from leaving until the door is again opened. Pigeons soon learn to know the purpose for which this is intended, and avail themselves of it.

When possible, a building erected for the purpose and one story in height I consider the best. This saves climbing stairs and consequently is much more easily taken care of than a second-floor loft. Where built for the purpose it can just as well be made rat, cat, and even man and boy proof, as a more elevated room. By excavating the ground for about a foot in depth, filling this in with cinders or broken stone, and then giving it a coating of asphalt, you have a rat-proof floor, and one that is easily cleaned at all times, besides being free from dampness. Covered a few inches deep with clean, white sand or pine saw-dust, it will keep sweet and clean for a long time, especially if occasionally raked with a fine-tooth rake, and all refuse that



PLAN OF SIMPLE CONTINUOUS HOUSE.

The design shown is a very simple, and at the same time a very good one to follow. The illustration shows two houses, but for those who desire more than two, it is only necessary to continue the plan as shown until the required number are built. The general details of construction as given for other houses will apply equally as well to this, excepting that where a large number are to be built in a row, it would be necessary to have doors between each partition, or a passage-way at rear running entire length of building. Brick foundation should be used when building a large number of houses.



A SIMPLE CONTINUOUS HOUSE.

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may gather be carefully removed. It should be made of good seasoned stuff, well battened on the outside and provided with plenty of windows facing the south and made to swing outwards. These can then be protected on the inside by wire netting, which will neither exclude light nor air. The roof should be tight and can be either a pitch or shed-roof as fancy dictates.

Attached to the building, as location permits, should be a large area or flight, enclosed on top and sides with wire netting, the first 3 feet from the ground being of 1-inch, the balance of 2-inch mesh; the 1-inch mesh preventing rats, weasels, and other vermin from gaining access from this source. Near the top can be arranged a door to fall downwards on to brackets, and thus allowing the pigeons, if desired, more liberty, and answering at the same time as an alighting-board or shelf when they return from a flight. This can be arranged with pulleys or reached by a ladder as the owner sees fit. The interior can be fitted with shelves for nests, and these nests made stationary or movable as inclination suggests, but I regard movable nests as the best, for then they can be easily cleaned, and when thought necessary to give the room a thorough white-washing, all can be taken out and there be but little obstruction to the work.

The little inverted V-shaped perches common in well-appointed pigeon-lofts, and previously mentioned, should be plenty, and placed on the sides of the building away from the nests, and these also should be movable so they can be frequently taken down and cleaned. By placing them one under the other, it prevents the bird above from soiling the plumage of the one under it, and as but one bird can occupy each, it also prevents quarrelling.

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The size of the building can be suited to the wants of the fancier, and be governed by the space he can devote to it, and also to the number he intends to accommodate. I would say in addition, do not, if you want to enjoy your birds, get it too small. A building of this kind could be put to other uses if the time came, as it eventually does to most Americans, when other matters require their attention and the hobby has to be relinquished.

From these descriptions the reader can deduce his own conclusions, and arrange such accommodations as his necessity and means demand and will admit of. He must also be governed by the number and variety he desires or intends to keep, and fashion his house accordingly. As a guide as to dimensions, I will say that a room 15x12 by 8 feet high will easily accommodate fifty pairs of birds. I would also add that all rooms should be provided with an extra wire partition so that young birds just out of the nest can be kept apart from the breeding pairs, and, also, so that when the breeding season is over the cocks may be separated from the hens, as for the good of the hens it is better to keep the sexes apart during the molting season and extreme cold weather. Otherwise the hens will be wasting their vitality by laying, hatching, and feeding at a time when they need to be recuperating for the spring and summer's work.

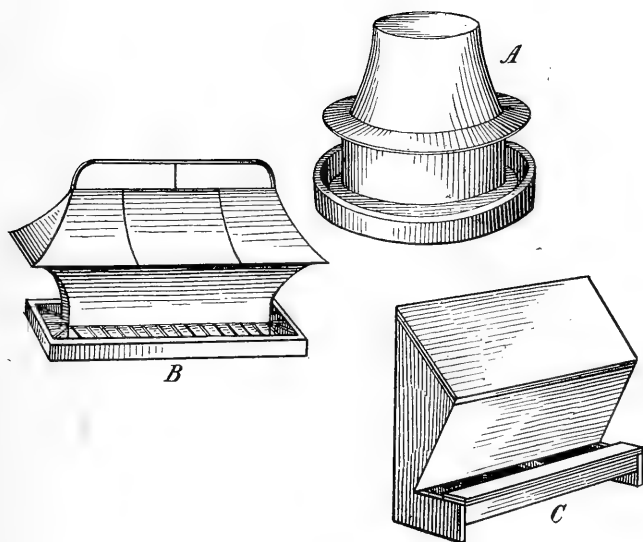
These remarks apply to such as have high-class birds and the conveniences to control them, and not to the owner of common birds, who uses the primitive house I have described, and allows his pigeons to live in a comparative state of nature, and under no control. In cases where they are allowed to "shift" for themselves, nature must be allowed to take its course, let the results be

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what they may; and, strange to say, results are often more satisfactory, as far as increase in numbers is concerned, than when they receive the best of care.

Having provided the loft or house, as it may be, seen that it is well painted or whitewashed, and guarded against the admission of rats, mice, and cats, we turn our attention to the necessary furniture for the convenience of the pigeons. This need not be abundant, nor elaborate in its character, but should be movable, and constructed so as to admit of economy and cleanliness in its use. First will be needed a hopper, or hoppers, for I believe it economy where you have several kinds of feed to have a hopper for each kind, as each pigeon has a different taste, some preferring corn to wheat or peas, and, again, others preferring peas to either wheat or corn.

If the three are mixed together in one hopper, the bird that likes peas will throw out with his bill, as far as possible, the other kinds of grain to get at his favorite morsel, and naturally much of the food thrown on the floor will be trodden under foot and wasted. If a hopper is provided for each kind of grain, the pigeon will find what it wants without trouble and will waste but little. These hoppers can be cheaply constructed, and of any pattern that may suggest itself. They can be made self-feeding, or consist of a simple open trough, and only such a portion of food placed in them each day as will be likely to be used on that day. Self-feeding ones are the most desirable for those who can not be regular in their visits to their pets, as it keeps a supply of food constantly ready for their use, a feature very desirable when old birds are feeding their young. But when one has time for frequent daily visits to his lofts or aviaries and can watch the food supply closely, I believe the open



A. Water-Fountain. *B.* Metal Food-Hopper or Water-Fountain. *C.* Wooden Food-Hopper.

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trough the best, and frequent feedings better than a constant supply. The feeding-trough, whether of the self-feeding or open pattern, should be protected by bars either of wood or wire, about 2 inches apart; this allows the pigeon to reach the food with his bill, but prevents his walking over it, also prevents a selfish cock from monopolizing the whole trough, as they sometimes will, and tends to prevent the wasting we have mentioned by throwing the food out with the bill.

A hopper for each kind of food placed in various parts of the loft insures a supply for all and of the kind most to their taste.

In the matter of drinking-vessels one can not be too particular, as clean, fresh water is really a necessity to insure perfect health, as there is unquestionably more disease and deaths caused by impure water than from any other source. Pigeons seem to have a penchant for fouling their water with their excrement, and consequently a closed vessel is the best for drinking purposes. But this water should be renewed every day, no matter whether all is consumed or not. The practice of filling a fountain and leaving it to stand until all the water is exhausted, is a bad one. The fountain should be filled every day and frequently scalded to keep it sweet. A good drinking-vessel can be made by taking an ordinary red earthen flower-pot. Stop the hole in the bottom tightly with a cork. Fill the flower-pot full to the brim with water, then take a saucer, such as is usually sold with such pots, of a size large enough to fit over the top of the pot, leaving a space of about an inch all around the edge of the pot and outside edge of the saucer. In the bottom of the saucer put three or four strips of wood or iron a quarter of an inch thick and place the saucer, bottom up, on top of the pot. Then quickly invert pot

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and saucer, setting the saucer in its usual position on the floor. The quarter-inch sticks will allow the water to flow out enough to about fill the space between saucer and pot, and you have a vessel easily filled and cleaned, and one in which the water will keep cool at all times.

For locations where water freezes in winter, this same fountain will answer, but needs to be filled several times each day, and watched that it does not freeze, and should always be emptied at night. In fact, I would advise emptying all fountains at night, and refilling them in the morning, not allowing water to stand in any vessel over night. There are many different kinds of drinking-vessels, but none better in all ways than the one above described. By using pieces of iron for the pot to rest on in the saucer it gives a little chalybeate quality to the water, that is said to be good as a tonic for the birds.

Another article needed as part of the furniture of the loft is a bathing-pan. This can be about 4 inches deep and of any size you choose; it may be an earthen pan accommodating three or four birds, it may be a sheet-iron one accommodating twenty-five or thirty, or it may be made of one end of a barrel, accommodating ten or twelve. But let its dimensions be what they may, it is to be counted among the necessary articles of the loft. In the summer a bath can be given every day, but in winter twice a week will do unless the weather is very severe. Sunny days should always be selected, and after the bath the birds be allowed to dry themselves in the sun.

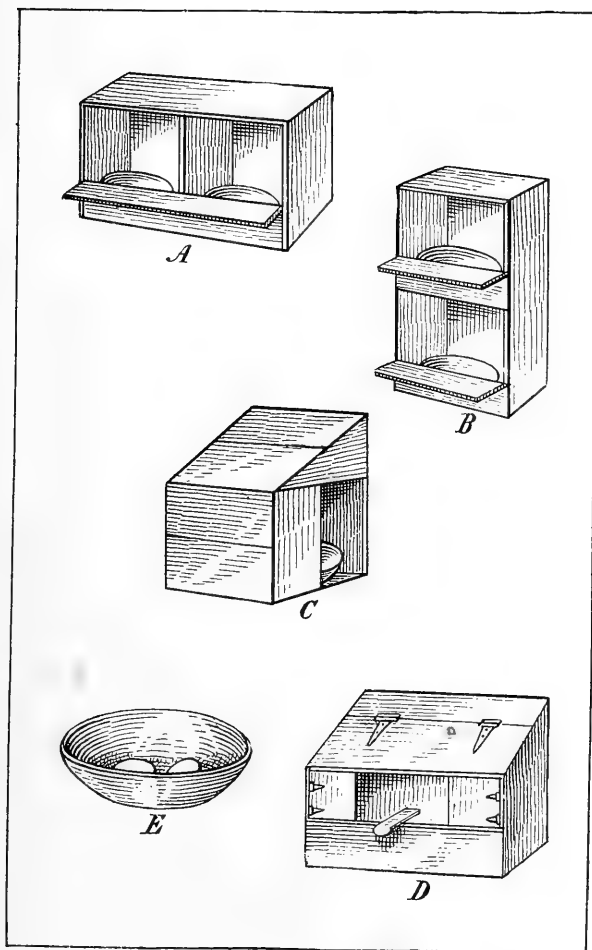
As soon as the bath is finished, the pans should be removed, to prevent the birds drinking the water, which they are likely to do if the pans are not emptied. It is astonishing how much dirt is removed by a bath.⁶ Put your water in the pans as clear as crystal, and when the

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sport is over (for the birds enjoy it and make sport of it) the water that is left will be of a milky whiteness and the surface covered with the dust from their bodies. This shows conclusively the necessity for a frequent bath. Birds allowed the free use of clean water are always exceptionally free from lice, and their plumage is bright and glossy.

Another piece of furniture necessary is a landing-net. This is made of rattan or any light material, looped at one end, and from which is suspended a bag of cloth or netting, about 18 inches in length, the upper or open end of the bag being attached to the loop in the handle. Wishing to catch any particular member of the loft, you take the handle of the net in the hand, and by a dexterous movement cast the net over the bird and it is a prisoner. This manner of catching a bird avoids the necessity of chasing it about and alarming the whole flock, startling the sitting birds, and making all wild and suspicious. A little practice will render one so skilful in its use as rarely to miss the bird aimed at.

Another necessary article is a scraper, for removing the droppings from the perches, the nesting-places, and the floor. For the shelves and elevated places an ordinary triangular ship-scraper is often used, or a portion of the blade of an old hand-saw, about 6 inches long and 4 or 5 wide, fitted with a wooden rim to protect the hand, is as good a scraper as one can use. For the floor have a piece of the saw fitted on the end of a handle 5 feet long. With this you can work easily and very effectively. If one has the time, a little attention every day will keep a loft in excellent order, and by working quietly the birds on the nests are not disturbed, and all soon learn that they are not going to be injured and pay but little attention to the worker.



PLANS OF NESTS.

A. Pair Horizontal Nests. *B.* Pair Vertical Nests.
C. Single Covered Nest. *D.* Double Covered Nest.
E. Nest-Pan.

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The scrapings should all be saved, as they make excellent manure when properly composted, or they can be sold to morocco dressers, who prize them highly for use in tanning their hides. Every loft, however small, needs a mating-cage if care is to be used in breeding. For this purpose a box 2 feet long and 12 inches deep and as many inches high will answer for all varieties except Pouters. These will need a larger cage or box. Divide the box in the middle by a wire partition; also slat or wire the front. This gives two apartments. Wishing to pair up any particular cock and hen, place them in the separate apartments, and, if congenial, they will soon make love to each other through the wire partition. They would, perhaps, mate if placed in a single cage, but sometimes the match is not an agreeable one to the hen, and in spite of all the enticing actions of the cock the hen will not accept his attentions. Then comes a series of quarrels, which frequently ends in the hen being mastered and then terribly abused by the cock, he frequently pecking her about the head till the skull is laid bare and the flesh a mass of bloody pulp.

By placing them in separate apartments this is all avoided, and after a time, if there is no agreement entered into between them, one or the other can be removed and a bird put in its place that may prove more congenial. I have frequently seen birds placed in the cage mate in an hour's time, and again have seen day after day pass and the hen show no indication of mating, and yet in the end, when the right spirit pervaded her, accept the attentions of the cock and prove a faithful companion.

Should the fancier's flock be a large one, he would naturally need several mating-cages. These should be located outside or away from the breeding-room, so that



BLUE POUTER COCK.

Being the easiest to breed, possessing all the good qualities of the other Pouters together with its own fine point, its beautiful blue plumage, the Blue Pouter easily takes the lead in this class of pigeons.

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the mating pairs may be quiet and undisturbed by the other pigeons. Provisions should be made for good ventilation in the loft, especially in hot weather, and while draughts are to be strenuously avoided, the air needs to be kept as fresh and pure as possible. Cleanliness will aid in this, but small openings near the top of the room that can be opened and closed as circumstances require are what is needed. Having suggested all the necessary fixtures for the comfort of the pigeons that are usually found in a loft, I give my attention to the proper food to provide for them while in confinement, a condition in which the greater part of the lives of fancy pigeons must be spent.



CHAPTER III.

FOOD AND FEEDING.

Pigeons that have their liberty are privileged to seek and select such food as they prefer. Frequently they find nothing to their liking near home, and fly miles away to feeding-places that furnish what suits their taste. In the country they visit the newly-sown grain-fields, and frequently become a pest to the farmer, or in the fall find generous living among the ripened grain. Those living near towns and cities find abundant pickings in the streets and thrive and grow fat upon the offal of horses scattered about. But pigeons in confinement have no choice and must take what is provided for their use or starve. Consequently it is the duty of their keeper to provide food that shall be palatable and acceptable to them. As all pigeons have not the same tastes and what is meat for one in a sense is poison to another, it is, therefore, necessary to furnish a variety, so that all shall find what is to their liking and so be satisfied and correspondingly contented.

Among the varieties of grain produced in America I find that pigeons take kindly to Indian corn, wheat, buckwheat, Canada peas, Hungarian grass-seed, millet, and sometimes barley, but this only when it had been before them a long time and they found that it was edible, but they would leave it any time for good wheat or corn. Tares, dari, and a small black bean, have frequently been imported and used for pigeon food, but as they come high, their use is not general, nor do I believe them necessary considering that we have so many other

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foods that are desirable and answer all the purposes required of them. Rye my pigeons never seemed to take to, and while I have seen frequently in the fall of the year flocks of pigeons on the harvested rye-fields, I never found fancy pigeons partial to it when they could get anything else. I have had the same experience with poultry; they never took kindly to rye.

Whatever grain is fed should be thoroughly cured and dry, as much loss and disease have been engendered by feeding pigeons new grain, strange to say, as pigeons flying at large seem to eat newly-ripened grain with impunity. I have seen fancy pigeons that were confined waste away and grow thin with an abundance of food before them, of which they seemed to partake freely, and on examining into the cause could come to no other conclusion than that it was from eating new grain. While using it the floor of the loft would be as wet as though sprinkled with water, and it was evident that the food was producing a loosened condition of the bowels that was weakening and killing the birds. A return to good, sound, old grain worked a change at once, and ever after I shunned new grain.

Pigeons are very fond of corn, and many are in the habit of feeding it whole to their birds. This is a dangerous practice, especially to small birds, as the large kernels are liable to lodge in their throats and choke them. The best way to feed this grain is to feed it cracked, unless you can get the small Yankee corn a little larger than a pea. In some sections of the country it is quite abundant and when it can be had is preferable to all larger corn. Although I have found, in my experience, that pigeons seem to prefer good, sound, yellow gourd, seed corn, they soon learn to know and like the smaller variety above mentioned.

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The food of pigeons needs to be varied according to the season and location. In northern localities where the nights are long and the cold sometimes intense during the winter months, the food needs to be of a kind slow of digestion and affording considerable warmth. For this purpose, good sound peas, either gray or yellow, and the little Yankee corn make the best of food. During the spring and summer months when the weather is mild and the birds are breeding, sound wheat, buckwheat, small Canada peas, and millet are the proper foods. Tares, if they can be afforded, also the dări I have mentioned, if that can be had. This last is an East Indian variety of grain, resembling very much the pearl barley sold in stores for soups. The English fanciers regard it highly, but owing to its cost it can never be expected to become a favorite with our fanciers.

I have said that what is meat for some varieties is poison for others; for this reason attention must be paid to the action of the different kinds of grain on the various members of a flock. If any particular grain seems to scour them it should be taken from them entirely, or only fed in small quantities; likewise if any grain seems to be constipating, that, also, should be reduced in quantity. In changing from one grain to another the change should be gradual until they become accustomed to its use. While an idea prevails that pigeons will eat grain only, this is a mistake, for they are fond of both plant and animal food. I have found peas and lettuce both acceptable and always supplied their wants by planting seed of these varieties in shallow boxes and when up about an inch placing them in the lofts.

While there is no question but that pigeons flying at large pick up animal food in the shape of small snails, it never seemed to be a necessity, and I never by experi-

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ment proved that they would eat it when confined. Salt fish, we all know, they are fond of, and many fanciers keep a piece fastened to the wall within reach of their birds, but while they may also like the meat, it is no doubt the salt in the fish they are after. Bread is an excellent, economical, and favorite food with pigeons. It can be fed in various ways. It can be dried hard and pounded to pieces, it can be toasted and broken in bits, or it can be soaked and mixed with bran. In this form I have found pigeons very eager for it; in fact, forsake their grain for it, and not leave the dish till it was all consumed. This preparation, with the addition of a little bone-flour, is excellent for birds that are feeding their young, and all seem to thrive on it. I used to purchase bread by the barrel of the bakers, and use it as above for both poultry and pigeons.

Salt is something pigeons are very fond of, and every loft should have either lumps of rock salt standing about, or a piece of salt cat. This is a preparation originated many years ago by old English fanciers, and, properly prepared, is said to be a great promoter of health and fine condition in the flock. There are many different ways of preparing it, but the following formula is about the best I have ever used: One peck dry loam; one handful each of flour, ground cloves, fennel seed, dill seed, cummin seed, fennigreek, and powdered assafetida; three double handfuls common salt and one double handful bay salt. Mix this well together dry, and then add water, and make about as stiff as putty, divide in cakes, allowing it to dry and harden in the sun. One or two of these lumps placed in the loft will be welcomed and freely partaken of as soon as it is found what it is. Sometimes if very hard, I have found it necessary to wet it a little to induce the birds to take it.



BLACK-PIED POUTER COCK.

One of the most graceful and gentle of all pigeons is the Pouter, so much so that it has been called the "Queen of Pigeons." It is a large but never coarse bird, with long and slender body, standing perpendicularly, with wings held close to the body; flights, extending in line to above the tail; the legs rather straight, closely feathered, long, and placed well back in the body.

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While grain and bread should form the staple food, there are many varieties of seeds that pigeons are fond of and enjoy occasionally, such as hemp, canary, rape, turnip, and coriander. These are more or less stimulating and heating, and should not be used for a general diet, but can be thrown to the birds after their return to the loft from a fly, or when giving them an occasional visit through the day. By the use of such luxuries birds can be made very tame. In addition to the various foods I have mentioned, I would recommend that a box of broken oyster-shells and old lime mortar be always kept in the loft. Pigeons seem to be very fond of lime mortar; not such as is used for walls or rooms, as this contains hair, but such as comes from brick or stone foundation walls. Pigeons confined in rooms of brick buildings where they can get at the mortar between the bricks, will, if not furnished with a supply, peck it out from between the layers of bricks. This is evidence that they are fond of it, and while, perhaps, not an absolute necessity, liking it, they should be supplied with it.

Broken bone and even broken charcoal will, at times, seem to be relished. While oyster-shells and old mortar may answer the purpose, I have always made it a point to have in addition a box of small-sized gravel. As pigeons, like members of the gallinaceous family, are supplied with a gizzard where the food is prepared for perfect digestion, it is necessary for this organ to be furnished with something hard that will assist in grinding the food, and nothing seems to answer this purpose better than sharp grit or gravel, consequently it becomes a necessity that something of this kind should be supplied. The prepared grit now offered for sale by various dealers is clean, hard, and sharp, and fills the place

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of natural gravel to perfection. With the varied "menu" presented herewith, the novice can form something of an idea of what his pigeons will enjoy, and while it is not at all necessary that he should supply to them the whole list, he can make from this his selection, and feed what seems to be most to their taste, and what agrees with them best. Be cautious about over-feeding. Keep them in just such a condition that they will enjoy their meals when furnished them and then with, if possible, a little outdoor exercise, they should be healthy, active, and contented.

Birds kept continually confined need a little more careful watching than those that can have daily exercise, to see that they do not suffer from close confinement. If the loft is roomy they can get considerable exercise right in the loft, but if quarters are contracted, the chances for disease and vermin are greater than if at liberty. Above all things, let the quarters be what they may, do not overcrowd. Where possible, I would advise the use of a raised platform for feeding; here the various grains can be placed, and be eaten from the feeding-dishes or hoppers, or scattered about.

If grain is fed directly from the hand, this platform can be swept clean before feeding and it will be found a much nicer way than to feed on the floor. One must be governed in feeding by the time at one's disposal. If only able to visit the birds twice a day, food must be supplied to last from one feeding-time to the other, but if able to visit the loft several times each day, then the feeding each time can be in limited quantities and the chance to vary the food much better. If one is situated so as to have a roomy area built on the ground, a platform can be erected there and on dry days the birds fed there. The gravel, water, and other supplies can all be

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placed here and sheltered from wet, and in this way the loft left for breeding and shelter alone. In this connection I might call the attention to the water supply, which should always be pure and fresh. The addition occasionally of a small piece of quicklime, also, at times a little of the Douglas mixture so highly recommended for poultry, is very beneficial.

The Douglas mixture is made after the following recipe: One-half ounce sulphuric acid, five-eighths pound green vitriol or copperas dissolved in two quarts of hot, soft water; when cold add two quarts cold water, making a gallon. A tablespoonful to a pint of water is about the right proportion to use. Some poultry writers have decried this mixture and pronounced it of no account, but experience has taught me that its occasional use is beneficial, and that, in the spring particularly, it has proved an excellent tonic. It imparts a slight chalybeate taste to the water, and all know that iron is frequently of great benefit to an impaired system. In addition to what has been said regarding the grain fed to pigeons, I would add that whatever you buy, have it good, sweet, and well cured. Poor grain is dear at any price, and for high-class pigeons is dangerous material to use. The screenings of good, sound grain are not objectionable as a change, but grain that is weevil-eaten or musty is not economical, and in many cases acts like poison. Beware of it.

CHAPTER IV.

WHAT VARIETIES TO BREED.

The necessary provisions for the accommodation and comfort of the flock having been all arranged, the question with a novice naturally arises, "What variety will it be best to keep and breed?" Well this, as it is a matter generally of taste or fancy, is a hard question to answer for all alike. There are so many to choose from; something like 150 or more varieties and sub-varieties, and all possessed of qualities more or less desirable. Much depends, as we have said, in regard to the construction of the habitation, on the moneyed resources of the breeder. Still, I believe in commencing, it is better to begin with some of the more easily managed varieties and learn through them what is needed for the successful breeding of the more expensive and higher-class pigeons. Therefore I always advise beginning with such birds as the common Long-faced Tumbler, Antwerp, Fantail, Duchesse, Owl, Solid Colored Turbit, and birds such as these, that are generally good nurses and feeders, possessed of fine qualities enough to make them attractive and yet not so difficult to produce in perfection as some of the high-class and parti-colored pigeons.

Then after learning the habits of these the young fancier is by this first experience better fitted to undertake the breeding of the more delicate and difficult varieties. Not but that some of the varieties named have qualities that are difficult to produce in perfection,

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but they seem to be easier to manage and control than others of this great family.

The breeding of pigeons in perfection is a study only learned by long experience, and the lesson, like the lessons of life, needs to be first studied and learned through the medium of the commoner and more easily understood branches. I think any one commencing in this way and then gradually working up to the more valuable varieties is less liable to become discouraged and retire in disgust from the fancy, than if he started in at once to breed high-class birds, and met at the outset the difficulties and discouragements one has to contend with in the breeding and management of such stock. In the breeding of fancy pigeons much depends on the motive that induces one to embark in it, as to his continuing in the fancy. Some start with the idea there is money to be made from raising fancy pigeons, and consequently foster with care every specimen that is brought forth no matter how imperfect in quality, believing every one is salable at some price, and, therefore, as it were, "fish for their net"; such a fancier has his place, but it is not among the foremost. Others again take it up because it is something new, and expect to derive both pleasure and fame from being associated with the fancy. Some of these achieve their end, learn to love the pursuit, and become life-long fanciers, but too many after many unsuccessful trials retire baffled and discouraged, and are heard of no more.

Others become fanciers from an inherent love of pets. These are the ones that generally make pigeon breeding a success, and that do so much to keep alive the love and interest for the feathered beauties. Money is no object to them, price is no hindrance to their ambition, and the word defeat is not in their lexicon. With the



PIGMY POUTER.

The Pigmy Pouter is the bantam of pigeondom, and, excepting size, is like its larger brethren in all things. There is some doubt as to its origin, but the Norwich Cropper is generally conceded to have had something to do with its make-up, though in-breeding must be resorted to if the bird is to be kept small.

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idea of improvement and perfection ever in their minds, they strive on, studying, experimenting, and breeding, until the desired goal is reached, for although Nature presents many obstacles, there are certain of her laws that when understood and put into practice bring the desired results, and these are the principles the true fancier is constantly striving to understand and apply. And this is what keeps him a fancier and has given to the pigeon world so many varied and beautiful specimens of their kind. Look back and consider, (taking the original Blue Rock *Columba Livia* as the starting-point,) what an immense amount of thought, time, and patience must have been bestowed on the subject, to produce such a lot of pigeons as the Pouter, the Jacobin, the Turbit, the Oriental Frill, and the scores of other beauties with which our great exhibitions make us all familiar. But scientific writers prove to us that it has been done, and who but the true fancier has produced these results? But I am digressing somewhat from the topic of this chapter, and come back to the subject, "What Varieties to Breed."

While I have mentioned a few of the varieties easiest cared for, and from which good results can be expected by one with little experience, there are many others that can be chosen which might answer as well, if the young fancier knows of them, and for that purpose I give herewith a detailed list of the varieties generally known in America. Europe and Asia contain many varieties not yet familiar to us, but which in time must come to our knowledge as we advance in age and experience. For the better guidance of the novice I purpose arranging the different varieties into four classes, as follows:

First, what are generally known among exhibitors particularly, as the high-class varieties. These are varie-

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ties that have distinctive properties or qualities about them requiring great care, study, and attention to perfect, and not found in any other kinds. I begin the list with that king of pigeons, the English Carrier, following with its compeer the Pouter, and their associates, the Barb and Short-faced Tumbler in all its numerous varieties :

1st—High-Class Pigeons—The Carrier, Pouter, Barb, Short-faced Tumblers.

2nd—Pigeons possessing distinctive properties regardless of color and with a strong tendency to impress their characteristics upon their progeny, such as the Jacobin, Long-faced Tumbler, Owl, Oriental Frill, Turbit, Scanderoon, Fantail, Priest, Trumpeter, Frill Back, Dragoon, Florentine or Hen Pigeon, Pigmy Pouter, Moakee, Isabel, Duchesse, Brunswick, Letz, Swift, Show Antwerp, Mahomet, Runt.

3rd—Pigeons which are dependent for quality almost entirely upon color of feather and markings, and are known usually as Toys. Losing these distinctive properties their value as fancy pigeons is gone, and they become little, if any, better than the common Dove House Pigeon.

The Swallow, Helmet, Nun, Spot, Archangel, Crescent, Suabian, Fire Back, Shield, Magpie, Breaster, Lahore, Ice Pigeon, Starling, Quaker, Stork, Damascene, Fairy, Hyacinth, Porcelain, Moorcap.

4th—Pigeons that have few, if any, distinctive qualities to distinguish them from the common pigeon, but that yet possess the homing instinct, and the quality of endurance so strong as to entitle them to a place among fancy pigeons.

The Antwerp.

From this list the young beginner can make as many

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and as varied selections as he chooses, but I would caution him not to commence with too many at once, and in his purchases to be also cautious whom he deals with.

It may be that he is so fortunate as to live in a locality where fanciers and breeders are numerous, as in the neighborhood of our large cities and towns. If so, he can readily learn whom he can place the most confidence in, and go to them for what he wants. But if living at a distance from any breeders he must then necessarily depend upon the various poultry and pigeon papers and magazines for information where to buy, and consequently be, as it were, at the mercy of the dealer. Let him, therefore, scan the advertisements closely, and endeavor to get some idea of the character of the advertiser also, through the medium of the lists of prize-winners usually published in these papers. The breeders who figure as prize-winners are almost always men of good character, and by opening a correspondence with them, he can learn of their terms and somewhat of the quality of the stock they have for sale.

Let him be guarded about dealing with men of no reputation, because their advertisement is well worded, and the prices, if given, are low, and remember that a low price sometimes, and often, means a poor quality of birds. If his means are limited, he had better put it all into the hands of a reliable man and obtain one, two, or three good pairs, than to buy five times as many from a man of no reputation because they are cheap. More harm has been done to the fancy through such men than can be imagined by any one not acquainted with the facts, and it is to warn the uninitiated against such pitfalls that I mention it here.

We are supposing that the young fancier wants to begin with good, reliable stock, can afford to pay a fair

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price for it, and wants some guide as to the direction in which to look for the same. If he has no particular desire to begin right, and only wants a collection of pigeons, without regard to quality, he had then better invest in common birds, as he will save money and derive as much satisfaction from breeding them, as from breeding poor fancy stock. It will give him just as good an opportunity to study and learn the habits of pigeons, and fit him if he desires to keep up the pastime; to handle the thoroughbreds as well as though he had the refuse of fancy breeders to experiment with.

All breeders produce some specimens that are lacking in the qualities needed to make them desirable breeding birds even, and while some are conscientious and kill all such inferior trash, others again, partly from a dislike to kill their pets, and partly from economical motives, dispose of them in a lot at the close of the breeding season to dealers in fancy birds in the large cities who usually find ready customers among boys and impecunious men fanciers, for such refuse. The breeder that sacrifices them all is a benefactor to the fancy, as it puts out of the way birds that never ought to be allowed to go out to the public, and tends more than in any other way to perpetuate a high standard among pigeons.

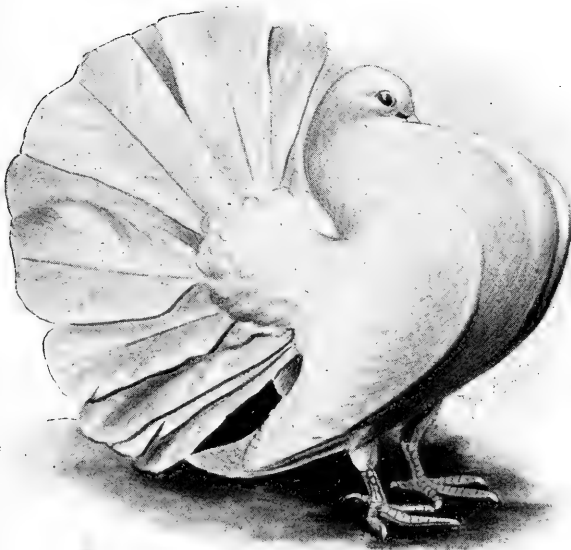
In advising correspondence with reliable breeders, I would not advise always commencing with his very best prize-winning stock, as this is generally held at a fancy and sometimes at an almost prohibitory price, and the purchase of such stock, while the inference would naturally be that it would on the principle of "like producing like," be sure to produce almost perfect birds is apt to be very disappointing; as while they are matched to meet the purposes of the show-pen, which calls for

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specimens of the highest standard, the mating for breeding purposes may not be at all in the proper line for perfection breeding. Therefore the better way would be to arrange with him you purpose buying of, to furnish you with good breeding stock, properly mated for best results. In this way you will start right, and while the specimens sent you may not be just what you have seen at the exhibitions, their progeny will be much more likely to turn out well and satisfactory than though you had bought birds matched for appearance only, and the price will also be more satisfactory.

I am supposing now that you are dealing with such men as I have recommended, and men who have self-respect enough to deal fairly with their customers. Should you unfortunately fall into the hands of a "shyster" or dealer of no principle, do not become discouraged, and class all fanciers in the same category as he, but try again and you will find that even your dearly-bought experience will not be wholly lost. If possible for you to do so, after settling on the varieties you would like to keep, purchase two or three pairs of each variety; this will then allow of your being able to mate up birds for your second year's breeding not wholly related to each other; in other words, it will avoid the necessity of too close in-and-in breeding, and providing you have been fortunate enough to select from breeders of character, will give you stock which, while not closely related, still has all the elements of a good family in its veins necessary to permit of your raising good birds and building up a strain of your own.

In opening a correspondence always state squarely what you expect and are looking for, but unless you are in want of exhibition birds, do not set your standard too high, or you may run against a rock in the shape



FANTAIL,

It would be difficult to find a more popular and generally admired bird than the graceful and beautiful little Fantail. It is probably a native of India, but is extensively bred in England and Ireland, as well as here. It is a small, round-bodied bird, slightly hollow in center of back, with its swan-like head resting upon the cushions. The fan-like tail should be carried well up and evenly balanced. The bird stands jauntily on its tiptoes with an almost constant motion in a good bird.

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of an enormous price that will so stagger you as to make it seem an impossibility for you to indulge in the diversion of pigeon breeding.

The high-class pigeons mentioned in my classifications are always expensive, and the better the specimen the better the price. A very little difference in the quality of individual birds will make a vast difference in value. This feature extends through the whole list of fancy pigeons; particular excellence in some desirable quality in different members correspondingly increases their value and price. It is hard to comprehend when first becoming interested in pigeons why those which show to the inexperienced so little real difference from others near by are yet held at so much higher figures. Experience soon teaches this difference and shows how, as I have said, a little difference in quality makes a great difference in value.

So in purchasing be at first satisfied with rather a mediocre quality of birds in appearance, as long as you know their antecedents are good. Pedigree breeding has not as yet been practiced in pigeon breeding to any great extent, but there are those who pay some attention to it, and we are gradually working up to it. Pedigreed birds, while they may not always produce perfect progeny, are less likely to sport, and throw something that you are not looking for, than birds picked up here and there and thrown promiscuously together with no question as to their origin. Hence if you can start with pairs of which you can have some idea of the parentage, it will be a factor in your favor. There is such a tendency to retroversion (that is, throwing back to original parents) among these birds of uncertain breeding, that while parents may have every appearance of quality, their young may prove to be nothing but "scrubs." The

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commingling of strange blood is likely to develop the taint lying dormant in one or the other.

Many a fancier has found this out to his sorrow, by purchasing some single bird of unknown parentage, and inating it with some good specimen of his own, and finding his young prove anything but what he hoped for and expected. This does not always happen, but it is oftener so than otherwise. Occasionally these chance matings prove to be excellent ones, and when such is the case there can be some confidence placed in their young for breeders for future use.

Many of my readers may wonder why I have given no statement as to the values of pairs of good breeding birds. As there is no established price among breeders this would be a difficult thing to do, as every man has his own price, and like many of the fancy articles of trade, much depends on the reputation he has made as a prize-winner, and on the quality of birds he has raised or has in stock. A breeder might ask for a good pair \$15.00 this month, and next month be glad to sell at \$10.00. Then again, there is such a wide variation in the values of different varieties. While nicely matched and mated Tumblers, Duchesse, and Antwerps may be bought as low as \$3 per pair, the kingly Carrier, the dandy Pouter, and the dainty Short-faced Tumbler, if of high quality, would readily bring from \$100 to \$150 a pair, and even this price would be considered cheap for extra-fine specimens of these kinds. The other varieties I have given a list of in the preceding pages of this chapter would range in price from \$5 up to \$40 and \$50 per pair, according to the variety, the stock descended from, and the parties having them for sale. On this basis the young fancier may judge when he hears of the prices asked for the kinds he is in search

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of, something of the quality offered for sale. Do not be led into purchasing poor specimens because they are cheap; better pay a good round price for something you are confident is good, and have the satisfaction of seeing presentable youngsters growing up around you, and thus save your money, your temper, and your time, as well as retaining your love and interest for your feathered pets.



CHAPTER V.

MATING FOR BREEDING.

We now suppose that the purchases advised in the preceding chapter have been made, the results proven satisfactory, and that there is now a stock of adult birds to commence another season's work with. These must necessarily be mated, and as soon as it is determined what birds to put together, if one knows their sex they can be placed in the mating-cage which has been previously spoken of.

Right here I wish to remark on determining the sex of pigeons. In young pigeons not yet matured this is a difficult thing to do. Although there are many ways advocated for arriving at such a decision, such as holding the pigeon in the hand, and with the fingers examining the abdominal cavity. The breast-bone of the cock is said to be longer, thus extending back and making the opening between it and the bones of the ossacrum or vent smaller, while in the hen the breast-bone being shorter it makes the opening larger. This, however, is a very unreliable test, as I have proved by hundreds of experiments.

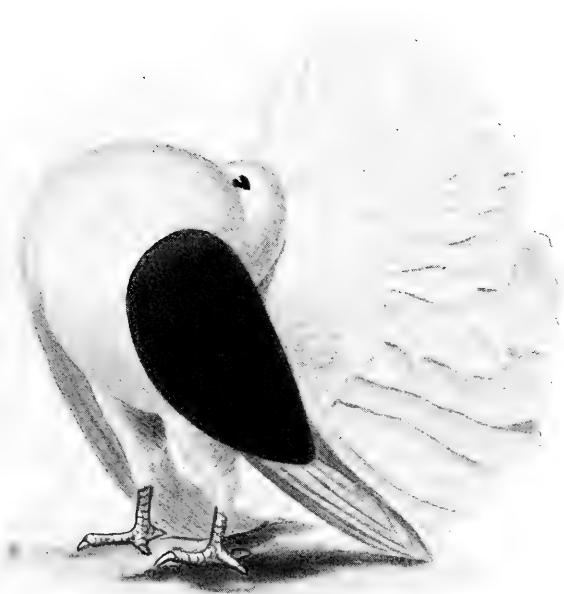
Another way adopted by some is to take the bill of the pigeon between the thumb and forefinger of the left hand, and the feet between the same fingers of the right hand, and draw them apart, if the pigeon throws its tail up, it is a hen, if it hugs it down close to the right hand it is a male. It will throw the tail either one way or the other, and this test has given me more satisfaction

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than any I have tried, and is the only way I adopt for testing a promiscuous lot of birds.

The head of the cock is generally heavier and there is an expression about the eye and face, learned only by experience, and inexpressible in words, by which an old fancier intuitively arrives at his conclusion as to sex. Like the human family some members of the pigeon family arrive at maturity sooner than others; these show their sex by their lively and salacious actions, and it is not difficult to select cock and hen in such cases. But these may be the very birds you do not want to put together, and those that you do want may be among the undemonstrative ones of the flock, consequently knowing the parentage or pedigree of those you wish to pair the only way is to choose what you judge to be cock and hen and place them in the mating-cage. Perhaps for days they may show no evidence of sex, although they may peck with their bills and strike at each other with their wings, and cause you to be at loss to decide whether two cocks, two hens, or a pair. After days of such strife they may soften and begin making love through the partition wires, and even this sometimes is deceiving as I have known both cocks and hens to pair with members of their own sex.

But observation will soon enable you to judge pretty closely as to whether they are really cock and hen. Sometimes it may be a single bird you are in doubt about, and everything tends to make you believe it is a hen. Then take her alone and put her in one of the apartments of the breeding-cage, keeping her there until thoroughly acquainted with her surroundings. If a bold, confident bird, well advanced to maturity, a day or two will be enough. If a shy, distrustful one, it may take a week. As soon as she seems at home, place in



BLACK SADDLEBACK FANTAIL.

These birds are the same as the White Fantail, except that the shoulders and saddle are black, and that as to marking and actions they are very difficult to breed in perfection.

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the other apartment the cock you wish to pair with her. He, if a lively, active one will begin to strut and coo, and then to play about his cage, spreading his tail, and in every way possible to attract her attention. She, on the other hand, will stand for a time looking at him in a surprised sort of manner. If his actions are satisfactory she will begin to walk about nodding her head up and down, swelling out her throat, and winking her eyes frequently; these motions will be supplemented by her finally spreading her tail, and with a sort of curt-seying movement, sweeping up to the partition between them, this will soon be followed by the billing process; after this the cock will settle himself in one corner of the pen or cage, commence "ducking" his head, making at the same time a peculiar cooing sound. This is known as calling to nest, and is good indication that the pair are mated and ready to be turned into the loft.

It may prove that the pigeon you are undecided about is a cock-bird; if so, instead of the peaceful attentions shown by the actions just described you will see proud and defiant actions, frequently ending in a pigeon fight with wings and beak. The sooner such are separated the better. Some practice putting the pair they wish to mate into a cage without a partition; this is objectionable, from the fact that some cocks are very tyrannical, and while the birds may pair and be in a measure satisfied with one another, he, in his anxiety for the hen to begin building, will drive her about continually, striking her with his beak as often as possible on the head, until it becomes a mass of raw flesh, and often kept up till the skull is bare, and the hen so exhausted as to be unable to move.

Mating with the partition prevents all this, and they need not be put together until one is satisfied all will

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be harmony between them. Sometimes you may know the pair you desire to mate are cock and hen, and yet the hen may prove a termagant, and in no way satisfied with the mate you have chosen for her. She will then make it so hot for him, that you, for the sake of peace, will be obliged to separate them. This is a case where if the partition is removed and they are allowed to come together, the cock, if a strong, vigorous bird, may whip the hen into submission. But I do not advocate such matings when avoidable, and they do not seem as natural, and are certainly not as peaceful as where the two accept each other without discord and strife. The pairs when properly and satisfactorily mated, can then be placed together in the nesting-places, and if my directions as to partitions and doors have been followed out, can be kept confined there a few days or until they are settled in their new quarters, when the screen-door can be removed and they allowed the liberty of the loft.

Previous to putting the mated pairs in the breeding-room, it will be advisable to remove any odd males or females, if there be any confined there, as they only tend to create a disturbance by intruding their attentions on the mated pairs. A strong cock will often pair with two hens where there is a surplus of hens, and dividing his attention between the two, frustrate your breeding plans. So sometimes such a cock will drive off the cock the breeder has selected and appropriate his hen to his own use, and in this way cause a continuous quarrel to be kept up, where it is most desirable that concord and harmony should prevail.

The birds being paired and "wonted" to their separate apartments, a nest-pan should be provided them, half filled with either pine or cedar sawdust as I have recommended. Everything being clean and new when

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first starting, it is not so necessary to guard against insects, but later when changing the sawdust, a few drops of turpentine can be sprinkled in the bottom of the can, or a little air-slacked lime be placed there and sawdust on top of that. For birds just mated and about beginning to nest, I would recommend that a few short straws and fine twigs be scattered about the floor of the loft; these they will gather up and put in the pan, and in this way keep themselves busy, and in a more natural condition. This is supposing that your birds are not yet allowed full liberty. If allowed to fly out and into the loft at will, they will bring in plenty of nesting-material, a practice not always conducive to cleanliness.

As the time approaches for the hen to lay, the cock will place himself in the nest, and, making a peculiar gurgling sound, try and induce her to take her place there; this he will vary by continually following her about from place to place, and by gentle pecks on the head endeavor to induce her to do as he wants her to do.

This is called driving to nest, and when this takes place you can generally depend on the hen soon laying. The hen usually lays the first egg in the afternoon, and stands over it all the following night and sometimes most of the following day. The second egg is laid about noon of the third day, when she settles down to the work of incubation, sitting all night and until nine or ten in the morning, when she is relieved by the cock, who sits through the day until four or five in the evening, when the hen again takes her place, and so the alternation is kept up until the young are hatched, which is in about eighteen days, counting from the time the first egg is laid, or sixteen or seventeen, counting from the time the last egg is laid.



BLUE CARRIER COCK.

This bird is one of the finest grown, and, although to an outsider it may seem unlovely, it is highly regarded by the fancier. It is a large bird and long feathered, and in youth is very sprightly, but loses this in a few years. The neck is long and thin, gracefully tapering to broadly-set shoulders; the beak is strong and straight and measures not less than one and three-fourths inches from center of eye. The beak-wattle is the most valuable property of the Carrier.

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Many fanciers remove the first egg until the second is laid, believing that then they hatch closer together if both, as it were, are started together; but the fact is as the hen does not, as a rule, sit closely on the first egg until the second is laid there is usually not so great a difference in the time of hatching. I am of the opinion that the less the eggs are handled and the hen disturbed during the first stages of incubation the better the chances of success. If a record be kept of the time of laying one can readily tell about what time to expect the young to hatch.

About the tenth day by taking the eggs in the fingers and holding them between the eye and a strong light, it can be determined whether the eggs are fertile or not. If they have young inside of them, they will be dark and a greenish shade show about the outside. If infertile, they will be pinkish in color, showing that no results are to follow further incubation, and might as well be destroyed. Sometimes one will be dark and the other light, and this means only one young will make its appearance. If both are infertile, by destroying them it breaks up the attempt of the pair to hatch, and after a short period of rest the hen will lay another pair. Should these prove infertile, it shows that there is something wrong in the mating, and the fault is usually laid to the cock, who for some cause is unable to fertilize the eggs. In such a condition of affairs it is best to give the hen another mate, for it is only a waste of time to keep such a pair together.

Sometimes this cock paired with another hen later in the season may do good work, but to keep a pair together that prove by their acts that they are not suited to each other is a loss of time and patience, and the sooner the little hen who shows that she can do her

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part, is given a mate with virility enough to vitalize her eggs the better for the plans of the fancier. Sometimes, though rarely in the case of pigeons, both eggs, which, on examination on the tenth day, appear to be all right, do not hatch, and the time is wasted. What may have caused it is often a mystery, but it may be a chill, or it may be an extra amount of heat from the body of one of the pair. The temperature of one or both of the pair may be above the normal, and this be the cause, as too much heat as well as not enough will kill the embryo in the egg.

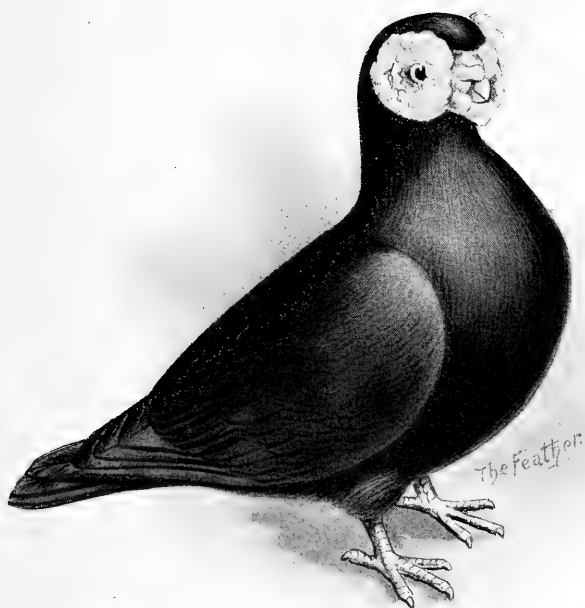
As the time for hatching approaches, the food which the parent birds take into their crops undergoes a peculiar change, turning into a milky fluid, similar to the chyle of the human stomach, and is known among fanciers as "pigeon's milk." This is a singular and wonderful provision of Nature, as the little pigeons are born blind and utterly helpless, almost naked, save a slight covering of yellowish down, and naturally need to be kept warm. This the parents provide for by continuing to cover them, as they did the eggs, and frequently feeding them with the soft food or "milk" by taking the bill of the "squab" in their own, and by a spasmodic action of the crop and neck injecting the food into the throat of the young bird. As the squabs increase in size, the food furnished by the old birds grows coarser and coarser, until at the end it is fed almost in the condition that the parents take it from the hoppers or feeding-dishes. In this feeding process lies one of the great secrets of success in breeding. The birds you have seen fit to mate together because of their combining elements, which one believes will produce nearly perfect specimens, may be happily and properly mated, may be good sitters, and yet fail utterly as feeders, and so all your

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calculations in that direction come to naught, for unless properly and regularly fed the young birds can not live.

Some varieties are notably poor feeders, such as Carriers, Pouters, Short-faced Tumblers, Barbs, and some of the other short-billed varieties, and while they may for the first few days do very well, after this they become negligent and the young suffer accordingly. Many fanciers, after learning the failings of their breeders, guard against it by providing foster-parents from some of the better feeding varieties, and as soon as the young are hatched transfer them to the nest of the foster-parents, having previously arranged that the two pairs shall hatch about the same time. The young of the foster-pair being substituted for those of the fancy pair, enables the poor feeders to feed off their "soft feed," as it is termed, otherwise they would sicken and perhaps die. At any rate, it would affect them to such an extent as to prevent their laying again for some time, while by feeding off this "soft feed" it keeps the system in a healthy condition and Nature is not interrupted in her actions.

Sometimes the best-laid schemes, like those of "mice and men," miscarry, and the supposed poor nurses raise their mongrel pair, while the *reliable* pair neglect their charges, and the hoped-for good results come to nothing. But this does not often occur where you know your feeders. But the best of them are erratic, and often by their irregular attentions spoil one's calculations, so that breeding after all becomes a matter of luck. For feeders you can use common pigeons, Antwerps or Tumblers, in fact any pair that experience tells you attend carefully to their young. I have found that varieties such as Carriers, Pouters, and Barbs, that are notoriously bad nurses when kept in confinement, fre-



BARB.

One of the oldest varieties of pigeons is the Barb or Barbary as it was once called. Preferably a large, well-shaped bird with fine carriage, large and shapely head, gracefully curved broad skull, short white beak, thick and curving sufficiently to carry out the unbroken outline in profile. The beak-wattle though not large should be close and even in texture, somewhat resembling a saddle with a distinct division line through the center—the eye, light or pearly with rich, red wattles, large, circular, and thick, standing out from the skull. This is a justly popular bird, not only here but in France and Germany as well.

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quently when given perfect liberty to go in and out as they please, having plenty of outdoor exercise, make as good feeders as one could wish. The change from the artificial to the natural conditions seems to work wonders in such cases.

In making selections for feeders, as far as possible select them according to the varieties you want to raise; for instance for long-billed varieties, you want long-billed feeders, for the short-billed, you want either short or medium-billed varieties, for it can be readily seen that a short-billed bird, no matter how good a feeder, could not feed a Carrier or a Pouter as well as an Antwerp, a Dragoon, or a common pigeon. While most Pouter breeders find it necessary to employ nurses for raising their young, I have, in my long experience, known of one Pouter breeder who raised a great many in the course of a season, and who depended alone on his Pouters to care for their young; this they did as perfectly as any pigeons do, and go to his lofts at any time and you would find plenty of fat squabs in the nests, and well-matured squealers running about the floor. Another thing, he disregarded all advice and example in the matter of feeding hemp-seed. He scattered it about lavishly and his birds were never without it. It may be that the stimulating effects of this grain was the cause of such good results in raising so many. But like the effects of strong drink, once addicted to the use of it, it became a necessity, for Pouters taken from the loft and fed in the usual way, soon lost their sprightly appearance, and if they did not die, it took a long time for them to again regain their life and animation, and come back to what we might term a normal condition.

In choosing feeders also some consideration must be taken of their dispositions. As far as possible select

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those of a quiet and courageous disposition, and avoid those of a wild and nervous temperament, as such are likely to jump from the nest at your approach, a habit that greatly interferes with incubation. Should the beginner be so situated as not to have any feeders for his young squabs, and notice that the parent birds were neglecting them, he can feed them artificially, if they are valuable, by taking crackers or toasted bread crushed fine and mixed with warm milk or warm water, then taking a small syringe, either of glass or rubber and injecting the food into their throats. This can be done until the little crop is well filled. Three or four doses of this kind each day will bring the young birds through all right. As they grow older and able to take coarse grain, soak peas, wheat, or small corn, till well swollen, then put these into the mouth, when they will swallow and soon fill their crop. Some fanciers, more enthusiastic than fastidious, take this food in their own mouths, masticate it well, then taking the young bird in their hands and placing its bill in their mouth, with the assistance of the tongue force the masticated grain into the young bird's mouths and so fill their crops.

The young pigeon soon learns to like this manner of feeding and will evince the greatest apparent joy at the master's approach, squealing, flapping its little stubs of wings, and raising up and down in the nest. Many a good bird has been raised in this manner, but I would only advise the practice in case of necessity. A watchful fancier visits his lofts often and can soon tell what pairs are feeding well and what are neglecting their charges, by feeling of their little crops. If well filled and distended and the young bird feels warm you may know the parents or nurses are attending to their business. Sometimes you will find a young bird with a crop

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full of hard grain and his body cold and clammy. This shows the old birds have been feeding grain it can not digest and that it is not benefiting the squab. There is not much hope for such a case except to keep it warm by some artificial means and give some warm, soft food. This will sometimes save it.

Young, healthy pigeons grow very fast when properly fed; in fact, you can see the increase in size from day to day. Often one of the young pigeons will grow faster than the other, which shows that the stronger bird is getting the most of the feed. In this case it will be necessary to give the weaker one some assistance by artificial feeding as heretofore recommended. While I believe cleanliness to be a necessity and every way an advantage, I do not believe in carrying it so far as to interfere with breeding operations, and think that the less the old and young both are disturbed the better the chances for success. Some breeders make a practice of cleaning their nest-pans during the breeding season, every few days, transferring the young to a fresh bed of sawdust, by exchanging the nest-pans. This may work well with quiet dispositioned birds, but I believe the better way would be, not to disturb the young birds at all until ready to leave the nests themselves. Of course, the accumulation of filth about the nest will be considerable, but if this is frequently sprinkled with sawdust or what is even better, land plaster, it will absorb all the ammonia and render it dry. I think it will be found especially in the case of shy, suspicious birds, that they will feed the young longer and also that the young birds will stick to the nest longer than if frequently moved, a condition very desirable to prevent their being abused, as they frequently are when out of the nest before they can care for themselves.

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Frequently the hen-bird will be ready to lay again before the previous squabs are fully fledged, and she should then be given a pan in the spare apartment of their shelf where the pair can again sit undisturbed. If the first squabs stick to their nest the old birds will continue to feed them and so the work goes on happily and uninterruptedly until the first pair are able to care for themselves. While pigeons are feeding their young great care must be observed in keeping them well supplied with food, for no food for the old birds means starvation for the young ones, as the old birds when taking food for themselves must in reality have enough for two or three and unless they have plenty the young ones will suffer accordingly; so the hoppers or feed-dishes should be kept well supplied at all times and the water be plenty and fresh.

It is at this time that the old birds like the toasted or dry bread so well, and it makes excellent food for young and old, and, therefore, one dish should be devoted to that alone. The soaked bread, bran, and bone previously recommended will be found beneficial at this time also, especially for the varieties where size is an object to be desired. To induce young birds to care for themselves a little wheat or small peas should be scattered about as soon as they leave the nest in the locality where they are seeing the old ones eat; this will call their attention to it and they will soon learn to feed themselves.

Young birds brought up by hand are slower to learn than those properly fed by their parents, but hunger is a good prompter, and it does not take a hungry youngster long to learn what the grain is scattered about for. I have, in a previous chapter, recommended having a separate room for youngsters that have been weaned and that can care for themselves. Where possible this

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is a great advantage, as they then do not annoy their parents while attending to the cares of a second family, and are, also, free from any chances of abuse from other members of the loft that they may importune "for a feed." Some male birds will feed any youngster that may solicit it, whether his own or not. Others are more pugnacious, and resent any such familiarity with severe punishment, and it is such that I want to guard against in recommending a separate room for all weanlings.

Soon after being weaned a partial molt takes place of the body-feathers known as "shedding the nest-feathers." These feathers are all dropped gradually through the summer, until the bird has all of its adult plumage. Wing- and tail-feathers are shed about the time of the annual autumnal molt, except in the case of very late-hatched birds, when they are retained until the following year's autumn molt. The age of young birds can be pretty correctly determined by their feathers. In young birds, fully fledged, but still squealing, the body-feathers will be laced with a very narrow edging of reddish-brown color. The wing- and tail-feathers are comparatively short and narrow. As they increase in age, these laced feathers are replaced by the broader and clear adult feathers of the body, and when the complete fall molt takes place the wing- and tail-feathers are also replaced by longer and broader feathers. So that if a young bird is found to have all of its body-plumage and its wing- and tail-plumage as well, it can be counted on being at least five or six months old. If younger than this some of its nest-feathers will be found in wings and tail. A young bird can also be told by its feet and bill. Where an adult bird's feet will usually be bright red and firm in texture, the young bird's will be of a bluish-red cast and soft and fine.



BLACK JACOBIN.

In England, Ireland, and Scotland, as well as in this country, the Jacobin is a popular and widely-bred pigeon, and deservedly so, as it is a very high-class bird with many distinct properties and can be cultivated successfully in many climates. It is a medium-sized bird, full breasted, long, and slender, with a jaunty carriage, holding its head about eight inches from the ground. Its head is small, hidden to the eyes by the long hood. The eye is pearl, white, or sometimes orange-tinted; beak, short, and rather thick; wattle, small and smooth, and eye-wattle, small, circular, and prominent. Head from the mouth and eye upwards white, also the tail-coverts and primary flight-feathers. The rest of the bird is black.

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Many young birds are very "precocious" or forward; that is, mature very early, and I have known them to mate and breed at the age of six months. But the breeder for fancy does not want to permit this where possible, as it is better for his purposes that they be allowed to become fully mature before entering upon the duties of raising a family. Consequently he needs to keep them apart, that is, the sexes, until time for spring mating. When the proper time arrives to mate birds for the season's work, which in the latitude of New York should be about the 14th of February, the fancier should look his stock carefully over and endeavor, as far as possible, to put such birds together as combine the qualities he is seeking for.

If he still has the original stock birds he purchased the preceding year, he knows what they have produced, and if their young proved to be good specimens he can mate them again. If their progeny proved unsatisfactory, it will then be necessary to give them other mates. Sometimes mating a son to his mother or a father to his daughter will strengthen and help to improve qualities peculiar to the variety. Brother and sister I would never, unless unavoidable, put together. But a young cock put to a young female of another pair, although there may be close relation between them, is preferable to mating brother and sister. What we want to aim at in breeding is a proper balancing of all the fancy points, so as to have them as near perfect as possible; not to mate so there shall be an excess of quality in one particular point to the exclusion of some other quality equally as necessary.

For instance, take Turbits (a hard variety to breed perfect, by the way); I would not want to mate two birds fine every way in head and beak, but deficient in

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frill and color,* for the natural inference would be that their progeny, while they might be splendid in head and beak, would be almost void of frill and so poor in shoulder-coloring as to be disqualified for an exhibition bird. The proper mating would be to take a young cock bred from well-mated parents, with say good quality in head-properties, and cross him with a hen lacking in such properties, but possessed of good shape, good frill, and good color. This would be equalizing the properties possessed by the pair, and the results would probably show that a step nearer the desired point of combined excellence had been made. While the young might not show the perfection of the male in beak-qualities, for instance, they would still be likely to be good in this particular, and combined with this have good frills, shape, and color. I know with Turbit breeders at the time I am writing everything is sacrificed for head-qualities, but I can not acknowledge these alone to constitute a perfect Turbit, and believe if judges do their duty they will insist on perfection in frill, shape, color of shoulders, and cleanness of thighs, as well as shortness of beak, shape of head, and perfection of shell or crest, in the make-up of an exhibition specimen.

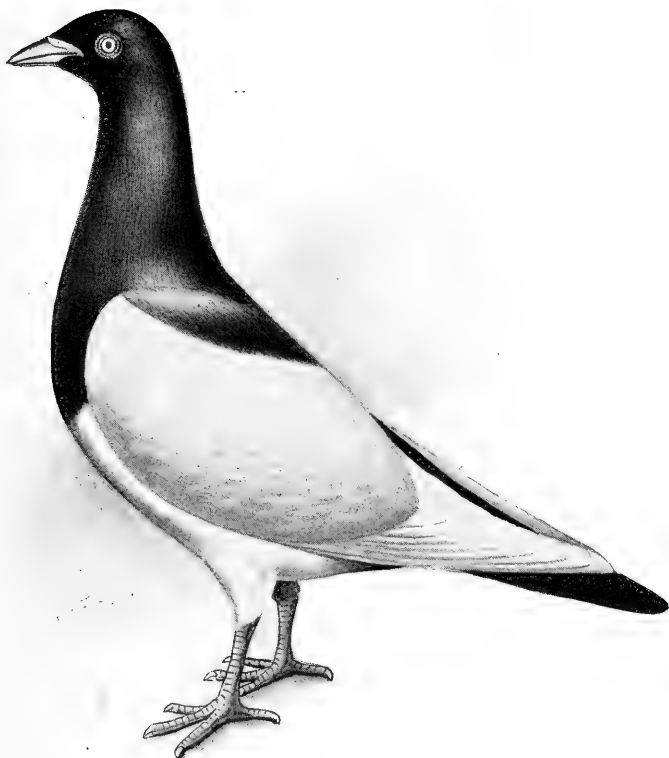
In mating any birds together, I would avoid, as far as possible, mating extremes, unless it were known that the deficient bird had been bred from birds of fairly good quality. This is where a perfect knowledge of antecedents is necessary. Having this knowledge, you can calculate how to select proper mates for certain individuals. All pigeons will throw some poor specimens occasionally, and these poor specimens, where the parents are known to be good, can be safely mated with a bird of superior excellence with an expectation of good results. But I would not advise mating two poor speci-

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mens, no matter how good the parents may have been. As these birds combine in their make-up, all the bad elements of the parent birds, and while chance might show something of good quality, it is against all the principles of breeding to mate bad with bad.

In mating solid-colored birds together, like Barbs, Owls, Carriers, Dragoons, etc., for exhibition purposes, attention needs to be paid to color as well as head-properties. In Carriers the practice has always been to mate Blacks and Duns together to get good Blacks, and the results of so doing will be likely to prove more satisfactory if the Dun is known to be descended from Blacks. So to get good Duns, if the Black has descended from Duns the result will be likely to be good Duns. This will apply equally as well to Barbs and other varieties. Reds and Yellows can be crossed together for these colors, and if the parents are descended from either of the colors, whichever is the strongest color in the parents' veins will be likely to show in the progeny. A Black descended from a Red, if mated to a Red, would be likely to give rich deep Reds. Sometimes, however, the union instead of producing a Red of clean color throughout will produce a Red with a bluish tail and rump, a very objectionable feature in a Barb, or it may be one will be a Red and the other a Dun.

Yellows and Duns mated together will occasionally give a rich yellow, especially if the Dun has yellow blood in its veins. Reds can be mated together with expectations of good results if they are known to have descended from Reds. Frequently, however, such a union will show a Black in the nest, especially if there is Black blood in the parents' veins. In mating Yellows, if one of the pair is known to have Red blood in its constitution the Yellow is likely to be more satisfac-



BLACK MAGPIE,

One of the finest of our toy varieties of pigeons is undoubtedly the Magpie. Originating in the Tumbler, it has now become a distinct class by itself with many admirers. It is a small bird, slender and snake-like, full-chested, with long, thin body, and a sprightly carriage. Head, long; skull, depressed, but not flat, curving easily in all directions; beak, salmon tinted and about half an inch long; beak-wattle, fine and small; eye, white or pearl, prominent, but gentle; cere, small, bright red or pink; neck, "snakey"; tail, long and compactly placed; flights, narrow, evenly folded and carried high above tail; legs and thighs, long and thin but not stilty; head, neck, breast, back, saddle, and tail, black,—rest of the body white.

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tory than if both were descended from Yellow. Mating two Yellows, in which the Yellow blood predominates, is likely to produce pale yellow progeny. Frequently, when two Reds are mated, especially if there is Yellow blood in both, there will be one, if not two, Yellows in the nest, and if by such a union Reds are produced the results will be light Reds. While Dun is regarded by some as an objectionable color to mate with Reds and Yellows, in consequence of the tendency of the young to appear with ashy-colored rumps and tails, still if the Dun has Red or Yellow blood in it, I should not hesitate to make the cross, especially if a good rich Dun, for the reason that the results of such a union would show flesh-colored bills, a very desirable quality in Reds and Yellows of any variety.

The mating for color can be seen by what I have said to be something of a game of chance, and it is certainly a problem requiring deep study and a thorough understanding of the flock. It may be necessary to improve the color of Red, Yellow, Dun, or Black birds to introduce at times new blood to your loft. In such a case I should recommend as a step towards this improvement to introduce a good, rich, glossy Black, if you can find one of good parentage, or a rich, deep Red descended from Blacks. Such a graft would be most likely to improve your color in this line. Blues and Silvers, especially in Owls, Fantails, and Dragoons, are colors that must be properly mated for, to produce good shades of these colors. While the chances are not so much against you as in mating the other colors mentioned, still they require study, in Fantails particularly, where there is a tendency of the Blue to come clouded or even Blue Chequered. For instance, two Blues that have Black blood in them when mated together would

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be likely to throw Chequered or clouded Blues, or they might even produce one, if not two, Blacks in each nest. It is not uncommon for two Black Fans, when mated together, to produce one and even two Blues, and the natural supposition in such a case would be that both birds had a preponderance of Blue blood in their veins, and that the union developed that color to the exclusion of Black.

But these are chances that we want in mating to avoid, where possible, so that we may know in mating certain colors together we may be certain of reproducing them in the young. Where pairs are thoroughly understood it is generally known beforehand about what colors they will produce, but how to mate their progeny with others of same stock is where reflection is necessary; to so mate two Red birds together as to get a preponderance of Red blood, or to so mate a Yellow and a Red as to get same results. On the other hand a Red bred from a Black sire or mother, if mated with a Black, would be likely to give a good, glossy Black. So a Blue crossed with a Silver with Blue blood in its system would be likely to give a clear Blue with black bars; or a light Blue bred from Silver, and again crossed with Silver, would be likely to give a good bright Silver.

As the painter prepares his different shades of color by mixing certain proportions of the primary colors together, so the fancier, by a proper knowledge of the parentage of his birds, learns to mate them for required results.

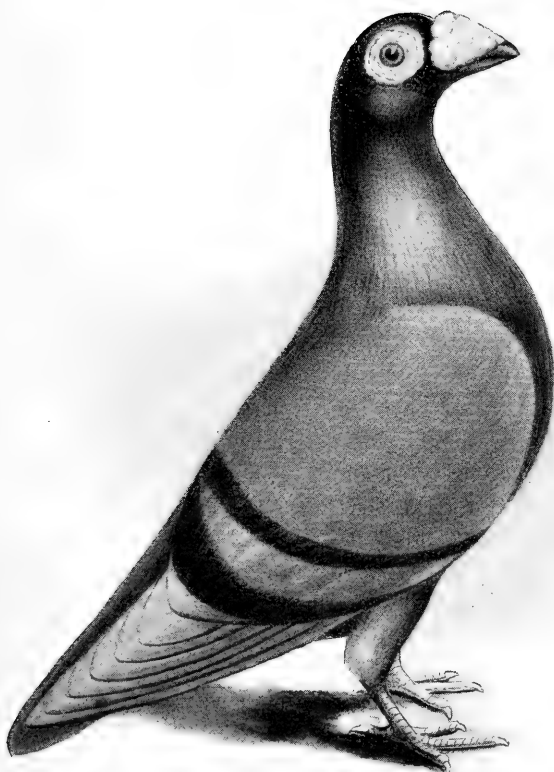
While I have so far spoken mainly of color, the other points, such as bills, eyes, frills, flights, booting, peaks, and caps, all need to be studied and calculated for in the same manner as color. The Turbit and Owl with small frills should be mated to a bird with a greater develop-

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ment of this feature. The Swallow, with a narrow cap or light booting, needs a mate with broader cap and heavier booting. The Trumpeter, with a small, uneven rose, needs a mate with a well-developed one, and so through all the various characteristics of the different varieties we must supply in one of the mates, as far as possible, what is lacking in the other. We can not expect to attain perfection in any one specimen, but by close attention to the laws of breeding, as laid down in this and other manuals, we must expect to reach a higher standard of excellence than can be reached by chance or haphazard breeding.

Many in reading this article might suppose I had reference wholly to solid-colored birds in my remarks concerning color, but the same principle applies to all parti-colored birds as well, such as the Swallow, the Turbit, the Nun, the Magpie, etc. For instance, in mating Swallows and Turbits we aim to avoid mating two birds together with a tendency to show too much color, which manifests itself in foul feathers on the breast, thighs, neck, and head; in the Nun in too great a development of the bib, too many colored flights, too much coloring in the cap; in the Magpie with too much color on the breast and back; and so with others of like character, like the Helmet, the Shield, the Spot, the Jacobin, and Bald Tumbler. All need to be mated so that the color shall be evenly distributed in the portions of the body to which it belongs.

In breeding several varieties together in one loft, with the utmost care our attempts at perfect breeding will sometimes be baffled by a very amorous hen receiving the attentions of a cock more active than her mate. This does not often occur, and unless one can confine himself to one variety and one color, is a chance that must be



BLUE DRAGOON.

If the Carrier is first of our varieties the Dragoon is a close second with its harmonious combination of shape, color, and size. The Dragoon should be nearly as large as a Carrier, with a commanding and graceful carriage, plump and compact; neck, short and thick; breast, broad and prominent; back, flat; shoulders, clearly defined; wings, strong, with flights well above the tail; the tail and flights short, but in proportion to the bird; legs, short with muscular and stout thighs; head, wedge-shaped; skull, oval in form with stout beak and mandible. The bird is rich, deep blue, with broad bars clearly defined.

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taken, although at times very provoking. Solid-colored birds are the most satisfactory and easiest to breed, and do not need quite as fine judgment in mating as the parti-colored varieties. For this reason some discard all others and confine themselves to birds of one color.

While the difficulties attending the breeding of birds of mixed color are more numerous than that of whole colors, the satisfaction derived from producing good specimens in this line well repays the trials and vexation one is liable to in the attempt. After the second year's breeding one ought to be able to form some correct idea of how to mate his young birds. He also surely knows by this time what his original stock will produce and be prepared to make such changes as his judgment dictates in them. If the original stock live and breed well together by all means let well enough alone. If, however, he finds that their progeny come foully marked, or as it is in the case of parti-colored birds, show too much color, or in the case of solid-colored birds, show deficiencies or excesses of certain required points, then it will be best to make a change, "breaking" the pair and trying them again with mates of your own selection. Perhaps a union with some of their own offspring will produce good results; mating the parent bird, that is deficient in some qualities, with a young bird that has an excess of such qualities and vice versa.

But there can be no iron-clad law in this matter; it must be a matter of selection, dictated by your experience and your acquaintance with your birds. There is a tendency with all well-bred stock to transmit their qualities both good and bad, to their offspring, and what we want in mating, is to so combine the good qualities, as to reproduce them, to the exclusion of the bad, in the succeeding generation. I do not suppose the time will

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ever come when we shall see all pigeons perfect. But experience shows us that all the fancy properties of the various breeds can be improved, and the study required is to know how and what to mate to produce standard birds.

Undoubtedly careful in-breeding goes far towards perpetuating certain good qualities, but it must be done with judgment and not in a reckless, thoughtless manner. Having several pairs of one kind bred from one stock, will aid you much in the matter of mating, and enable you better to decide how to in-breed them to produce high-class birds of their variety. All established strains have been bred for the purpose of perfecting the characteristics that go to make up a good bird, and having these characteristics, in a measure, fixed in them by combining the blood of relatives, it is not as difficult to improve a deficiency in one bird by mating it to a bird more perfect in character than it is where entirely foreign blood is introduced to accomplish same results. Many a fancier has found that the introduction of such alien blood, has worked havoc in his flock simply because he has chosen a bird because it looked well and of which he knew nothing as to its breeding.

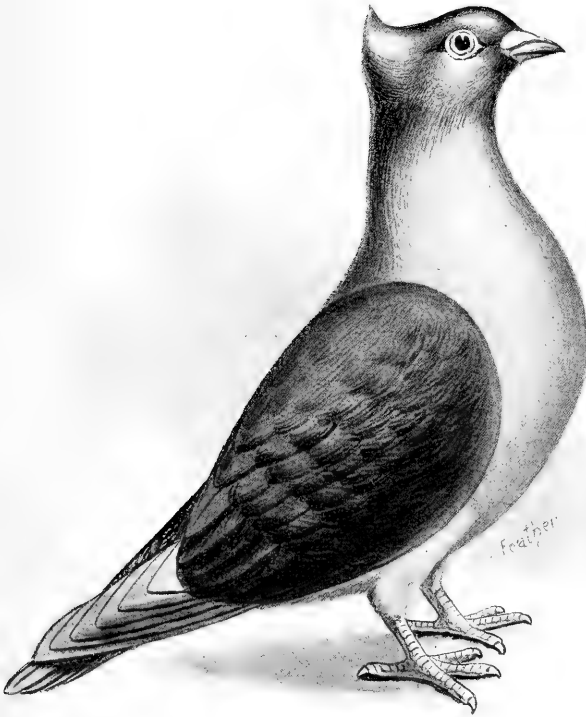
If after your second season's breeding, you have been successful in raising a few birds of superior merit, do not be tempted to part with them, as in them you must find another step towards perfection in your flock. Like the friend whose affection has been tried, hold to them as it were with "hooks of steel," for they are worth more to you if you want to keep up the improvement of your stock than the paltry dollars of your customer. We are supposing that the fancier is breeding for quality and the love of the pursuit, and not for the profit there is in it. This will come when he has so far im-

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proved his flock that he breeds more good specimens than poor ones. Establish its quality and reputation, and the profits are sure to follow.

In mating for color properties, it has been found by experience, that the male generally exercises more influence in that line than the hen, while inbreeding for form, size, and other characteristics, the hen exercises the controlling influence. Bearing this in mind one should be governed in his mating accordingly, and if he is looking for improvement in color, be careful in the selection of the cock. If for size, length of limb, development of wattle, size of beak, crest or frill, look to the hen for these qualities chiefly. In other words, if you are looking for improvement in these particulars choose hens that are well developed in these respects in preference to those deficient, and the chances are better for satisfactory results.

At the commencement of breeding experience, I would advise the young breeder to keep a correct record of the breeding of his young stock in such a way that he can tell at any subsequent moment how each bird has been bred. This will aid him greatly in the future when mating up his birds and does not oblige him to trust to memory, which is a very unreliable manner of keeping a pedigree. By knowing the breeding of each specimen, he is enabled to tell whether descended from a pair closely related to each other or not; whether the pair had too much color, too great a deficiency in some desirable property, or whether inclined to throw birds of superior quality generally. Knowing the tendencies of the parent birds on both sides, he can form a clearer and more correct judgment as to what he may expect from the two that he wants to put together, and so guard against mating young birds that both come from



ARCHANGEL.

The Archangel is practically a modern production, but its beautiful plumage is rapidly making it a favorite. It is like other varieties as to its shape, size, and carriage, but its markings are distinctive. The head, neck, breast, and under-parts, as far as the vent and thighs, are a rich copper-bronze color with a beautiful metallic luster. The wings, back, and rump, are bronze-black, with tail a blue-black. They are naturally wild and graceful.

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parents with tendency to breed to extremes in any particular points. This keeping of pedigree and aiming at all times towards perfection, is one step towards building up a strain.

After selecting the variety or varieties you want to keep, study well the required standard of these kinds and then proceed, if necessary, with one property at a time, perfecting it as far as you can and then take up another, harmonizing all as far as possible, and not perfecting one or two peculiarities, to the neglect of others. For instance, if in Carriers, do not try to perfect their wattling and forget length of beak, length of neck, and carriage. If in Pouters, do not perfect length and feathering of leg, to the exclusion of size of crop and length of feather. And so through all the different varieties, endeavor to equalize all properties for which the variety is distinguished, and so make a pleasing whole. Time and patience are required for all this, but it will be time and patience well expended, for in the end you will have created a family whose offspring are almost certain of being suitable for exhibition, a feature that determines the quality of any kind of stock. To say they are fit to exhibit means they are of quality to compare with the best. Reaching this period you are then ready to reap your harvest of "gold", as birds with such a reputation never lack for customers or a market.



CHAPTER VI.

THE PLEASURE OF PIGEON KEEPING.

According to our population, the proportion that appears to love and enjoy the keeping and breeding of fancy pigeons is small. This is perhaps owing to the fact that we are such a practical people and want to see money returns in all our investments. And every one who indulges in this luxury knows that the cash returns for the money invested and the time and care devoted to such an amusement do not cover the expense.

If every pigeon raised were worth its weight in gold, the breeders would be like the leaves of the forest. With their attractiveness and beauty, it would seem as if every country home at least should have its place for pigeons; and no doubt if the pleasure derived from watching and caring for them were understood, it would be a recreation more generally indulged in. But the ignorance displayed among country towns and villages concerning the habits, beauties, and lovable qualities of these choicest of pets is astonishing and lamentable. Nowhere is it more frequently made apparent than at our fall shows. The judge, in performance of his duties, is called upon to answer the most absurd questions and listen to most amusing comments, such as "What makes that bird blow his breast out like that? I should not think he could see to eat. Does it make him fly any better?" and "Oh, John! just come here and see this pigeon—how mad he is; he raises the feathers upon his neck just like a cat!" and "Do those birds with the big tails have to carry them that way all the time? I should

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think it would make them tired." These are only a few samples of what the judge has to hear. But I repeat, it shows lamentable ignorance among those whom we would suppose should at least know something of the characteristics of these denizens of the loft.

If pigeon breeding were more general and the same pains taken with them that is given to cage-birds, the dove-cote would soon become as necessary to every country house as the flowers that bloom in the door-yard, and these we all know are only kept alive and brought to perfection by constant care. It is said that in Arabia every mud-hut has its accommodations for pigeons; in Russia they are well known and regarded as sacred, and every one has heard of the pigeons of Venice. The old Romans were great lovers of fancy pigeons, and Pliny says of his countrymen: "Many are mad with the love of them; they build towers on the top of their roofs and will relate the high breeding and ancestry of each." So that we may see from this that pedigree breeding is no modern idea; and as to the madness of our modern fanciers, when a man pays \$250 and \$300 for a pair of pigeons, those not interested might well think him mad. People of oriental countries have from time immemorial been fanciers, and some of our choicest varieties—in fact, I may say most of them—had their origin in those far-off lands. We send missionaries to teach them our religion; they might send missionaries to us to teach us of the pleasure to be derived from originating new varieties of pigeons and in perfecting those we already know. My observation teaches me that while the fancy may not be increasing in numbers, it is certainly increasing in the knowledge of the principles of breeding, as is shown by the improvement in all varieties of pigeons known to us. Note

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particularly the Fantails, the Jacobins, the Archangels, the Magpies, and the Oriental Frills. I mention these because they at present are the most prominent; but Turbits, Tumblers, Owls, Swallows, and all the old favorites show the effect of increased knowledge and care in breeding. The difficulty as to increase in the numbers of the fancy lies in the fact that so many, as age comes on, are obliged to give up their pets through the demands of business on their minds and time. I could count by scores men that I have known who were the most ardent of fanciers, who to-day do not own a bird, but there are few of those who, if circumstances would permit, but would return to their love and again take up the pursuit.

Much has been written as to encouraging the love of pigeons among children, and it is no doubt from among the younger portion of the community that we must look for recruits; still if it were not for the older and more experienced heads we would not have seen the advancement in pigeon culture that we have in the past few years. So let us hope that those maturer minds who are now doing so much to elevate the standard of pigeons, may long be spared to us to keep up the interest and enlighten and encourage the young.

The question is often asked by the uninitiated, what are fancy pigeons good for? What are they kept for? Our answer is always, only for pleasure. And then we enter into a dissertation of how one man finds pleasure in developing the fancy points of such varieties as Pouters and Carriers; another of Barbs or Almond Tumblers. How one has a passion to possess a fine flock of all the different colors of Swallows. How another makes a study of Nuns, breeding them with an aim to perfecting them to such an extent that they shall have the neces-

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sary marking of the head and throat, the perfect number of flights in each wing, and the necessary number of colored tail-feathers free from blemish. Some become so infatuated as to desire to possess specimens of all the different varieties. This involves not only great expense, but requires spacious accommodations and help to care for them. Such a hobby soon runs its course, and the fancier, if he does not wholly relinquish the amusement, settles down on one or two pretty varieties, and finds that time devoted to developing their good qualities is time much more satisfactorily spent than when divided among so many.

The question is often asked, also, who comprise your fanciers? are they all boys? For this seems like a boyish amusement. But no, the fanciers are as varied in age and occupation as the pigeons themselves. We have physicians, lawyers, clergymen, merchants, gentlemen of leisure, shoe-makers, carpenters, blacksmiths, laborers, and boys of all ages. There is no restriction placed upon converts to this fancy; it is a free-for-all amusement, and all that is needed is the love for it and the wherewithal to gratify such a love or taste. So likewise the accommodations are as varied as the votaries of the pleasure. Some are satisfied with a few boxes placed against a wall; others, again, with the gable end of a house, or barn, and others spend hundreds of dollars in elaborately-arranged and furnished aviaries, where the pigeons are supplied with every luxury that they have a love for, and where friends and visitors can sit and enjoy their many pretty ways, and varied forms and plumage. But be the accommodations humble or magnificent, the enjoyment obtained is as great for one as for the other. The poor man's pets have as many attractions for him as do the more favored ones of the

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wealthy fancier for their owner. The nature and habits of the pigeons are not changed by their surroundings. Billing and cooing, pairing and breeding go on as happily in the hovel as in the mansion, and the poor man, sitting on his haunches in his cramped and contracted garret, sees as much to admire, love and delight him as his more favored brother, with his aviaries of wire and glass.

All classes of fanciers find the pigeon-loft and aviary a pleasant place to pass a restful hour. Here the physician, while watching his birds, can calmly study out some efficient remedy for a baffling disease; the lawyer smoke and solve a knotty problem of law; the clergyman find practical matter for a sermon from the text, "Yet shall ye be as the wings of a dove, that is covered with silver wings, and her feathers like gold"; the merchant find relief from the perplexity of figures and the importunity of collectors; the man of leisure from the demands of society and the whirl of fashionable life. The shoemaker, the carpenter, the blacksmith, and the laborer seek their lofts in the early morning, and when the day's work is done; and the pleasure they derive in handling and caring for their pets serves to cheer and lighten their labors through the following day, and is a loadstone that helps to call them home when the day's labors are ended. Many a man and boy have been kept from evil associations by the attractions afforded by a few pigeons about their humble homes.

While each may have his favorites, and derive pleasure from the various kinds he owns, those who keep a flock of flying pigeons, such as Antwerps, Dragoons, or any of the varied family of Tumblers, probably find a greater diversity of amusement than those who have nothing to admire but form and feather. The mania or

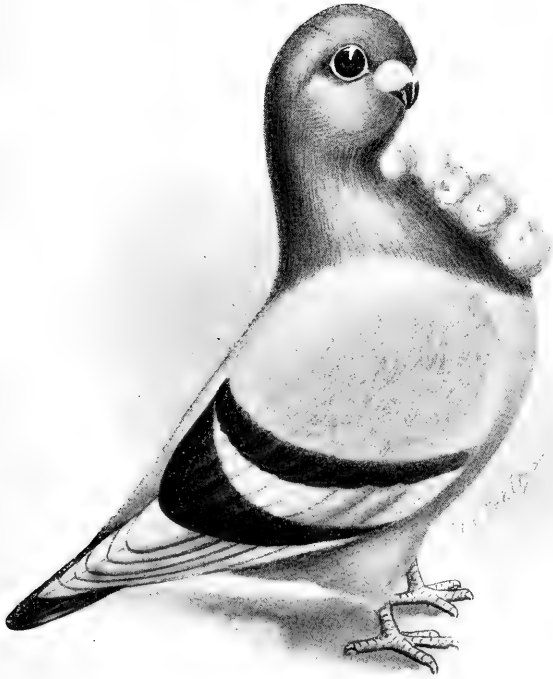
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fad for pigeon flying is not a modern idea. As long as pigeons have been kept for pets, a certain portion of the fanciers have found recreation in training individual families as flyers, until the faculty for flying long and high has been fixed in these particular varieties and now the quality is transmitted from parent to offspring, and all that is necessary is the practice to develop it.

History informs us that all the nations of Asia and portions of Africa have used pigeons as a means of communication from time immemorial. The Turks, the Greeks, and the Romans were all lovers of the sport, and there is no question but what they used Carriers, as they were then called, for conveying messages from one section to another while their armies were in motion. An old song tells of a warrior wounded in battle sending a message to his love, and he apostrophizes the bird in this manner :

“Fly away to my native land, sweet bird,
Fly away to my native land;
And bear these lines to my lady-love,
I have traced, with a feeble hand.
She marvels much at my long delay,
A rumor of death she has heard,
Or she thinks, perhaps, I have falsely strayed;
Fly away to her bower, sweet bird.”

Pliny tells us that when Decimus Junius Brutus was besieged in M^ulⁱna forty-three years B. C. by Mark Anthony, and the Roman consuls, Heirtius and Pansa, came to raise the siege, Brutus communicated with the consuls by pigeons that flew over the heads of the besiegers, thus setting at naught the blockade so securely established. It is also said that a certain Mohammedan ruler of Syria and Egypt, one Nour-ed-deen Malaknoud who reigned between the years 1145 and 1174 A. D., had a systematic pigeon postal service from his residence



AFRICAN OWL,

This jaunty and graceful little bird is much admired and its delicacy alone probably keeps it from being more extensively cultivated. It is a native of Africa and the difference of temperature necessarily makes it difficult for it to stand a great climatic change. In shape it is compact with very round skull and short, stout beak.

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to various parts of his dominion. Towers were built at various points along the routes, and at these points were stationed watchmen whose business it was to look after the welfare of the pigeons. Numerous instances in which pigeons were used as messengers by the ancients are on record thus establishing the fact of the antiquity of pigeon flying.

France and England, before the days of the telegraph and the telephone, used pigeons as means of transmitting important financial news and racing events, from one capital to the other, and in our own America, Carriers were often used for this purpose before Morse with his great invention annihilated space. Belgium has long been noted for its splendid varieties of Homing Pigeons, and it is from this quarter that we have received some of the best stock known in America, and as Antwerp has long been the principal port from which shipments have been made we have come to know all this variety of birds as Antwerps.

All pigeons are very much attached to their homes, but all have not the organ of locality developed alike. Some birds when taken but a short distance from home become dazed and lost, and while they show every evidence of delight when returned to their home, they do not seem to have the faculty to find it of their own accord. Others again have this organ largely developed, and it is this that enables them to find their way when taken hundreds of miles from home,

"O'er moor and fen,
O'er craig and torrent,"

till that home is reached.

Undoubtedly by careful breeding and training this quality has been improved and encouraged and has given

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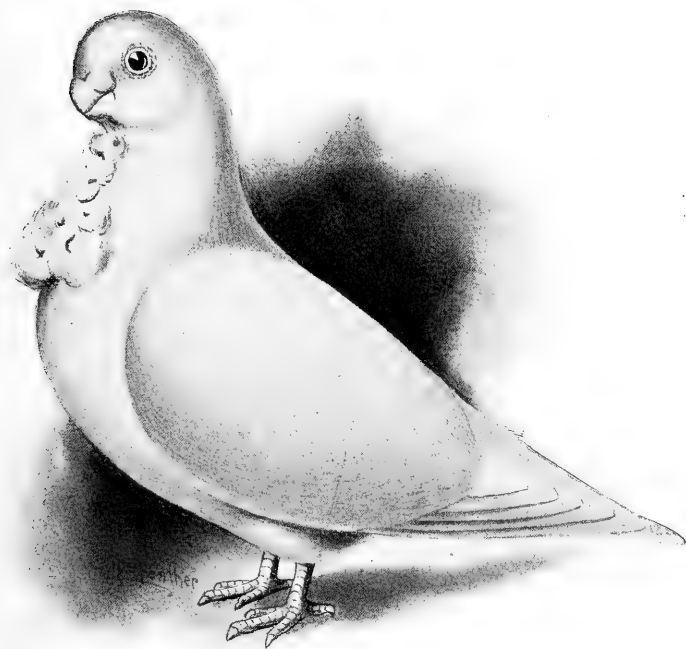
us the splendid races of Homing Pigeons we now have. It was for a long time a disputed question by what means a pigeon "voyageur" found his way home when liberated at great distances from it, some claiming it was by sight alone, others that it was by instinct, and that a good bird would find its cote if tossed in any direction. But experience has taught that it is by sight, aided by this faculty of recognizing localities quickly, that the pigeon finds its home. Flying, as they do when at liberty, at a great altitude, they become acquainted with every prominent object about their homes—steeples, domes, lofty buildings, rivers, lakes, and trees. When put in training they are taken at first a short distance from the loft. As soon as liberated and they have themselves well gathered together, as it were, for a flight, they begin to fly in circles, constantly widening as they ascend, and keep this up until reaching a height at which they can discern some familiar object. They at once strike for this knowing that their goal is in that direction. Frequent practice of this kind familiarizes them with all the country between the points from which they are started and home.

I am inclined to believe that rivers and lakes are prominent guides for the Homing bird. At the great heights to which they rise, especially when in a new locality, the lakes and rivers, like silver mirrors and threads, are more prominent than other objects, and by following their course they are led to more familiar scenes. Pigeons flying where the landscape is familiar do not fly as high as where it is comparatively strange; another proof that they are guided chiefly by sight. While sight is the Homing Pigeon's main dependence, it is aided by a certain amount of intelligence and a large amount of courage, patience, and

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endurance. Without these qualities they would be no success as long-distance flyers; and it is only the birds possessed of these qualities in a high degree that return from the three, four, and five-hundred-mile races. Hundreds sent out to cover these distances never return, which makes Homing Pigeon flying an expensive amusement. But the cock or hen that succeeds in making these long distances, and doing it several times in succession, becomes an idol in the loft of its owner.

While many pigeons will fly quite a distance, such as the Owl, the Swallow, the Dragoon, the Archangel, the Tumbler, and others, still birds kept for the particular amusement of long-distance flying are mainly the variety already mentioned—the Antwerp. To establish a flock of this variety with a view to flying them, it will be necessary to begin with young birds that never have flown, as old birds would return to their birthplace if once flown from there, or else become lost when let loose. Young birds can be raised from old ones purchased and kept confined, or they can be purchased when just able to care for themselves, and as soon as able to fly allowed their liberty about their new home. They will know no other, and so be contented and always have a love for that locality. After having become well acquainted with their outdoor surroundings and grown strong and hearty, they can commence their training for long-distance flying. At first they should be taken five miles from home and liberated. If they are successful in returning they can again be taken this distance, then increased to ten, then to twenty, and so on by gradual steps and constantly increasing distances until they have become fitted for the supreme effort of their lives, the 500-mile distance. Few birds accomplish this feat, but those that are capable of it are worthy



ENGLISH OWL,

The English Owl to-day is a very different one from that of forty or fifty years ago. It was small and attractive, but lacking the head-properties that it now has. It is a strong, healthy bird, plump, with prominent breast and broad chest; the wings are strong and muscular; neck, short and thick; legs, short and without any feathering below the hock; tail and flights, very short; and the head, which should be large, broad, heavy, and massive, is carried in a jaunty and kingly fashion; beak is short, curving downward, and carrying out an unbroken curve from back of head to tip of beak; the beak-wattle is fine and small; eye, set low in head, is bold and prominent; the gullet must be largely developed, commencing from under the lower mandible and running into the rosette. There are Blues, Silvers, Powdered Blues and Silvers, Blue and Silver Chequers, Whites, Yellows, and Reds.

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of all the praise they receive. Care needs to be used not to "over-train," as it is called, or otherwise not to call upon your birds to make long-distance flies too frequently and so overtax their strength. But while recuperating from their fifty and 100-mile flights, for instance, they need daily exercise, which should be given twice each day, morning and afternoon. In this way they are more apt to fly high and circle wide than though entire freedom through the day were given them.

These flights can be encouraged by starting them off and frequently waving a small flag attached to a long, light pole, called by some fanciers a "flatterer." They soon come to understand what this means, and will circle and mount to great heights. By this means they become thoroughly familiar with the landscape for miles around, and the exercise strengthens their muscles and gives them the knowledge of localities that aids them in their future long-distance flights. After flying an hour or so they should be allowed to alight, when they will at once come into the loft for a drink. At this time they should be given a little hemp, canary, or coriander-seed, and have their morning or evening feed. This answers as a reward and as a stimulus to return home. A hungry bird, like a hungry horse, when turned towards home, has not only the love of home to encourage, but the knowledge that plenty of good food and water is to be found there when that home is reached. Birds trained and exercised in this manner are always active, alert, and strong. Naturally it makes them a little wild, but this is no detriment to a Homer, this very feature being an advantage, as it makes them cautious of dangers and watchful for enemies while on the wing.

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Pigeons when sent or taken for their long journeys should be carried in roomy, airy baskets, and should not be crowded, as this would tend to soil and ruffle their plumage and thus unfit them for a successful flight. Just before starting, say an hour, they should have fresh water and a liberal feed; they will not then have to fly with a loaded crop, as their food will be partially digested, and they will yet be well fortified for a long flight. Where Antwerps are used for carrying messages long distances, in consequence of the difficulties they are subject to, such as murderous gunners, birds of prey, storms, variable winds, etc., several should be started at a time, each bearing the same message; this will be more likely to insure its delivery, as all will hardly be likely to fail in making the journey. Various ways of attaching a message to the pigeon are used. Some fasten it about one leg, securing it in place by small rubber bands, others fasten it around one of the quill-feathers of the tail, while others again place it between two quills of the tail, and wrap them together with thread, worsted, or rubber bands. But the most secure and modern method is the aluminum message-holder. The message should be written on a slip of silk paper, as this is light and can be rolled very closely. When written fine and closely a great deal can be said on a small piece of such paper. Should the message be of great importance and private, it can be written in cypher and translated by a code previously agreed upon. Communication of this kind was frequently used during the late Franco-Prussian war to good advantage, and Antwerps are still kept by the different governments of Europe with an eye to future emergencies in time of war, and receive regular and systematic training. Our own government has used Homing Pigeons as means

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of communication between its frontier posts for some years, and found them of great advantage, although not always reliable, from the attacks they were subject to from hawks. Writing of hawks, reminds me of a curious plan the Chinese pursue to protect pigeons from the numerous small hawks that are common to that country. A visitor to that section writes: "While enjoying the curious sights that everywhere met my eye, my attention was called to a succession of peculiar shrill whistles, that seemed to come from the space over our heads. On looking up I could see nothing but a flock of pigeons circling about. Being unable to solve the mystery, I called the attention of our host to the singular sounds, when he laughingly replied: 'Oh, that is made by the pigeons, and is caused by a small whistle attached to the tail-feathers of certain of the birds, and is placed there to scare away the hawks, which it is very effectual in doing.' The whistle is so arranged that the pigeon passing through the air causes it to emit at intervals the shrill noises I heard." Much more could be said of benefit and interest to those who select Antwerps as pets. But in this connection we must not forget the pretty, modest, and attractive little Tumbler family. They too are kept as flyers, but not for racing nor messenger purposes although even they will readily return home from ten and fifteen miles distance. I well remember a beautiful flock of Long-faced Red Tumblers I once possessed, and it was in connection with them I first learned how strong the homing instinct was developed in the Tumbler. An English-born friend had been a fancier in his boyhood and on seeing my flock the old fancy took possession of him again, and nothing would satisfy him but a family of the same kind. Accordingly a bargain was made and he became the pos-

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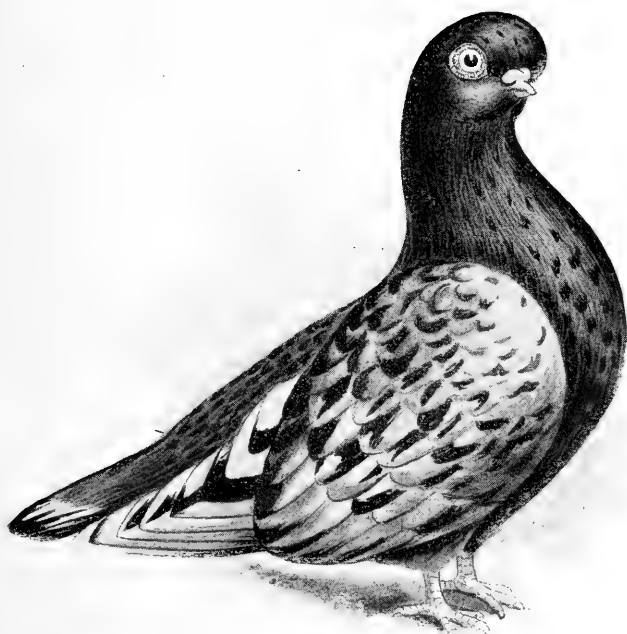
essor, much against my desire, of a pair of my little beauties. A paper flour-sack was provided, some holes cut in it for air, and he marched off the happy owner of what he considered the nucleus of as fine a flock as I had. His home was about ten miles from mine and I bid adieu to my little friends never expecting to see them again. But one day when paying my usual evening visit to my pigeons, I found the pair I had sold him occupying their old position in the loft. I could not believe it was them, so counted my birds over, and, sure enough, I was two ahead of my usual count. A few days after he called on me again to see if I would not let him have another pair, and with a sorrowful face related how he had kept these confined until he thought they were thoroughly wanted to their home, and thinking to give them some exercise, turned them out the very day I discovered them in their old location. He said they soared around for a few moments, mounting higher and higher, and finally darted off to the west and he had never seen them since. When told they were safe and that they were still his, a happier man was never seen. Again he took them away, and kept them confined until he had reared several pairs of young, when, thinking that they must surely have forgotten their old home, he once more gave them their liberty, and I again was surprised to find them at night in their old place. Three times they came back to me during the year, and the last time it was agreed between us that they should stay, since the old home seemed so dear to them.

But, as I have said, they are not kept for long journeys but for high flying ; that is, soaring to great heights from the earth, although the above experience proves that they possess the homing faculty to some extent. The

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variety, form, and color of flying Tumblers is almost numberless, and embraces varieties known by many different names, such as Rose Wings, Mottles, Grizzles, Bald Heads, Badges, Saddles, Splashes, Tipplers, Beards, Birmingham Rollers, Almonds, Kites, High Flyers, Oriental Rollers, etc. Some of these are muffed or booted, others again are without booting, and are known as plain legged. Each variety has its peculiarities, some tumbling only once in awhile during their flights, others like the Birmingham and Oriental Rollers, tumbling over and over several times, while still others although known as Tumblers never tumble. They are a beautiful family of pigeons, however, and no matter which variety or varieties are kept, they afford an unlimited amount of pleasure.

The quality of high-flying in Tumblers, as with long-distance flying in the Antwerp, has to be taught them, and is done by allowing them their liberty but once or twice each day, and at that time keeping them on the wing with the flag previously spoken of in connection with Antwerps. The same course of feeding as with Antwerps needs to be observed with "flying Tumblers." The question of whether the fancier wants a flock of high flyers that simply fly high and never tumbler, or whether he wants a flock that tumble well and fly high also, is one to be determined by himself. Birds that tumble are not as likely to prove as good in high-flying and long-staying qualities as those that do not tumble. By long-staying qualities, I mean ability to keep on the wing for hours, some flocks staying up for the period of twelve to fourteen hours, and this at such a height as to be at times invisible to the naked eye, but to my mind the birds that tumble as they fly are the most enjoyable. It takes time to collect a good family of such birds, as it



ALMOND TUMBLER COCK.

Though this is a most popular variety of the Short-Faced Tumbler, even the breeders have little pleasure in raising them on account of the diversity of opinion as regards the color. "The same color as the shell of the almond," but how many different-colored almonds are there? The ground-color should be in tint like the inside shell of the almond; the head, neck, chest, back, and wing-coverts, spangled with rich black; tail and flights, showing three distinct colors—almond, black, and white in uneven patches. They are erect and jaunty, with head large and round, well thrown back; neck, short, arched, broad at base, but very slender at throat; chest, broad, prominent; wing-coverts, spreading; back, slightly raised; beak, short, straight, horn-colored; cere and wattles, small and fine; the flights, carried below the tail but no opening between the two; the eye large, round, and very prominent, set well back in the head, silvery, bright, with jet-black, well-defined pupil.

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is only by proving them by flying that one can determine their quality. There is nothing to indicate this quality in their appearance, and for this reason most flocks of high flyers are made up of a motley collection as far as color is concerned, but time and patience will allow of making a collection of similar markings and color if one so desires, and this should be the aim of a beginner in this class of sports.

A beautiful flock of Mottles, Bald Heads, Beards, or solid colors is something to be proud of, especially if added to their coloring you can secure good performing qualities. In commencing a flock, procure for your first breeders a few pairs of known good performing powers, for then you can reasonably expect their young to inherit these qualities. If possible these breeders should be purchased from a point a long distance from your own breeding-place, otherwise, as they possess the homing instinct strong, the same as all good flying pigeons, they will be likely to leave you as soon as released. These old birds you will have to depend upon to train the younger birds, and consequently it is necessary that they should become thoroughly attached to their new home. Kind treatment, regular and careful feeding will do much to accomplish this. Daily exercise in the enclosed area I have previously recommended for all pigeon-houses or lofts will familiarize them with surroundings, and then when first liberated, which should not be until some months have passed after their purchase, they should be allowed to go and come at will, never startling them nor attempting to prove their flying qualities. A week or more of such freedom accustoms them to the locality, and they are ready for their first lessons. It is presumable that during the time they have been

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confined a goodly family of youngsters has been coming on, that are themselves in good flying trim.

The flock can be liberated some clear, fine morning. It may be necessary to frighten them at first to make them all rise at once, and as soon as they are well bunched together commence waving the flag I have cautioned you against providing, gently at first, and as they ascend more vigorously. The older birds will understand its meaning and begin to "climb up," the young ones following. After flying awhile, they should be allowed to alight and come into the loft, where they should find fresh food and water. They should be kept confined until three or four in the afternoon, when another lesson can be given them, and so proceed with them every day, until at last as soon as they are liberated they will dart up and begin to circle until they reach so great a height that the neck aches with watching and the eye can detect nothing but an occasional sparkle as some one or more individual birds perform a somersault. Good performing birds tumble as they rise, and it is a beautiful sight to see them all going through their peculiar gyrations, keeping close together, the sun glistening on their plumage, and they constantly rising higher and higher until they appear as mere glimmering specks far up in the ether.

While training attention must be given to those that lag, for we want no laggards in such a flock. Such birds should be disposed of in some way and not kept even as breeders. Care must be observed not to liberate them on a stormy or foggy day, or they may lose their bearings and be hopelessly lost. Breeding birds should not be allowed to fly too long, or their eggs will get cold; consequently it is not best to fly them so often during the breeding season. Young

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birds when commencing to fly sometimes fail in their attempts at making a complete somersault; such birds can be assisted sometimes by the removal of one or two of the central tail-feathers, or by cutting off a portion of the tail. If even after such treatment it is found that they can not get over, they should be discarded if the object is to establish a flock composed entirely of good performers. It is necessary that they have exercise at least once each day when weather permits, otherwise they become fat and disinclined to both soar high and tumble. Where kept in constant practice they show well at any time when let out, and as to display their abilities to visiting fanciers is one of the pleasures of their keeper, by keeping them always in good trim they are in condition to satisfy their owner's pride at all times. Among all the pretty varieties for this purpose none surpasses an assorted lot of Bald Heads. They are not only pretty to look at in the loft, but are handsome and attractive while on the wing. It is no easy matter to collect such a flock, but time will accomplish it, and when gathered together with the qualities already described they are a "joy forever."

Many are satisfied with a promiscuous lot, caring nothing about color so they fly well and tumble; such a flock it is less difficult to establish, and while not as attractive as a selected lot of Balds, still affords an immense amount of satisfaction and amusement. Our English brethren have flocks of high flyers that they place in competition with one another, the same as do Antwerp flyers, the birds flying the longest winning the prizes. Little, if anything, has been done in this way in America, and herein lies a source of amusement for our fanciers that will give fully as much satisfaction and be less expensive than Homing Pigeon races. The English pa-

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pêrs mention in their reports of such races flocks that, though liberated at 6:30 a. m., did not return until 7:30 and 8 p. m. of same day. This shows a marvellous amount of endurance, equal to that of the Homer, and when we think that most of this time they are so high up that the eye can hardly distinguish them, and frequently are entirely beyond the range of vision, it seems wonderful, indeed, and awakens at once a greater degree of interest in these little pets. We praise man for his valorous deeds, the horse for his wonderful bursts of speed, and the dog for his great intelligence, then why should we not render our meed of praise to the little aerial voyageur whose surprising performance on the wing makes us open our eyes in astonishment that one so small should accomplish so much?

Contra-distinct from the high-flying Tumbler we have another little pigeon pet, that is kept for amusement and as a curiosity. I refer to the "inside" house or ground Tumbler. This little pigeon, while the counterpart in size, form, and coloring of the common Outside Tumbler, differs from it in the fact that it is so constituted as to be unable, as a rule, to rise to any great height on account of its tumbling proclivities. For this reason it is usually kept confined and never allowed entire freedom for fear it should become the prey of cats, dogs, and other lovers of pigeon flesh.

The origin of this variety of Tumbler is rather uncertain. Brent, an English writer, speaks of them as a Scotch variety. Tegetmeier, a noted English writer and judge, mentions a pigeon peculiar to India that rolls or tumbles when shaken from side to side and then placed on the ground. As I have never seen such specimens in America nor heard of their being bred in England, we can hardly expect to trace our little Inside Tumblers

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to that source. I have long been of the opinion that they originated in or about Philadelphia, and in correspondence with an old-time fancier of this novel variety, Mr. T. S. Armstrong, he writes me as follows: "My experience and recollection of Inside Tumblers commences about thirty-five years ago. At that time it was very seldom that we could get a bird that would ever perform in a large room. I don't think that I ever saw a bird turn over within six inches of the floor until at least ten years later."

I have maintained that Inside Tumblers, or at least what we call inside birds, are strictly a Philadelphia breed, and to the manor born. Wright and other English writers refer to them rarely, and when they do it seems to me that their ideas and our own differ very much. Years back very little attention was paid to any point except tumbling. We would select the best Outside Tumblers we could get without regard to shape, color, etc., only so they performed well, "came down in a roll" as the boys used to say; price was no object. Then we would fly the young ones from six months to a year; those that stayed down and were not gobbled up by cats, we would select as the future breeders. So we kept on, and as I write, old names come up that I had well nigh forgotten. English Dave, Harry Herdegen, Mike Grogg, Tommy Walls, Bill Runye, and about as many more that I can not bring to mind, many of them having passed over the border. Yet to these men belong the credit in my estimation of the origin of the real simon pure and only Inside Tumblers.

After a few years of patient experimenting more attention was paid to breeding to color, and after ten or fifteen years, birds began to come that we could not let out nor fly, and at the present time we do not think of



MUFFED ROSEWING TUMBLER.

This is a fairly easy bird to breed, being hardy and easy to manage. It is a bold and jaunty bird, though small, plump, and short in body; broad-chested; head, round; neck, shapely, though short; muscular shoulders; light horn-colored beak, thin and straight; eyes, white or pearl, with small, smooth wattles; short legs and small feet; muff, plentiful and the outer edge in the form of a half circle coming in to hock, if possible, without break. The color should be even with white circular marks on wings and back.

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such a thing. A bird that can get up three feet is not an inside bird, he is only a "corny." To Mr. William Fable (now dead some eighteen months) belongs some of the credit of style, head, and beak-qualities, rich and uniform coloring combined with the main characteristics, and some I take to myself. You remember yourself the famous, pure-white, pearl-eyed birds I used to have, and sold as high as \$100 per pair.

Such, undoubtedly, is the history of the origin of this interesting and amusing little pigeon, and confirms my convictions that Philadelphia was where they originated. Here they have always had admirers and been carefully bred, and to-day probably there are more Inside Tumblers to be found than any other single place in America.

The fancier who may be unable to keep pigeons because he can not allow them to fly, can find an immense amount of pleasure, comfort, and profit in breeding these little pets. An unused, well-lighted room in the house, or a neat little house in the yard, could be arranged to accommodate six to ten pairs. Here they can be treated the same as other pigeons, as far as feeding, watering, and other care is concerned, and they will pair and breed, producing, if well-managed, from four to six pairs each in a season. Their colors are not as various as that of flying Tumblers, and are chiefly confined to Mottles, Grizzles, and solid colors. The habit of tumbling varies in different specimens, some rising to the height of three or four feet before making a somersault, others can not rise from the floor on account of their tumbling. These last are more of curiosities, but do not give as much satisfaction according to my idea, as those that rise three or four feet and then make two complete somersaults before striking the floor.

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It is done very neatly, and they always land on their feet. In fact, the little fellows that can not rise from the floor always, after a turn, land on their feet.

The question whether it is a pleasure to them is one hard to answer. But the fact that they try to avoid raising, and only tumble when startled, inclines me to believe that it is a nervous affection, and not a voluntary action, and that when startled they lose control of themselves and in trying to rise go over backwards. The fancier wishing to display their qualities to a visitor usually takes a small stick and strikes the floor behind them, sometimes they respond at once with a somersault, at others they will run away, and it requires several attempts with the stick to get them to tumble. Often by scuffing the foot behind them, they will turn over, but all movements to get them to tumble have to be sudden.

Young birds of excellent parentage do not always inherit the qualities of their parents, and can never be made to tumble in the room, but as soon as turned out of doors become good Outside Tumblers, although liable to lose their control, and tumble to the ground. I call to mind a fine black specimen of this kind that had been flying at large for some time. One day he alighted on the eaves of the barn and when he attempted to rise, would turn a complete somersault, and land on both feet in the place where he started. It was amusing to see his look of seeming surprise every time he made a rise and came back in the old place. He finally made an extra effort, cleared the barn, and landed in the yard, where he was picked up and transferred to the Inside Tumbler room, with the idea that he would be a good bird to breed from, and as it proved he ever after made a good inside performer.

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A breeder of this variety wishing to amuse himself or friends, can take his birds out on the grass plat, spread a sheet or blanket over the grass, and enjoy their performances to his heart's content. While more attention is paid in breeding them, to mate them with a view to perpetuate the tumbling quality, good breeders, when possible, like to mate also, so as to preserve a uniformity in color, and I have seen very pretty collections of Mottles, also Reds and Yellows, and note particularly the beautiful, pure-white specimens mentioned by Mr. Armstrong. He gave up the breeding of this particular variety some years ago and his stock, like that of many another successful retiring fancier, was scattered and their identity completely lost.

The history of this little pigeon is an evidence of what persistent effort and time will accomplish, and should be an incentive to fanciers of any particular variety, to set their standard high, knowing that patience and good judgment will enable them in time to accomplish all they desire, and that their attempts at perfection will add a keener zest to the pleasures of pigeon keeping.



CHAPTER VII.

DISEASES OF PIGEONS.

While pigeons living under natural conditions and with unrestrained liberty are rarely, if at all, subject to disease, pigeons kept under control and even partial confinement are subject to a variety of diseases, brought about, no doubt, by this artificial manner of living. Lack of proper exercise, breathing tainted air, improper food, and unclean water have much to do with causing a diseased condition. Consequently it stands a fancier well in hand to provide especially clean, roomy apartments, to give all the open-air exercise possible (if not feasible to allow perfect liberty, then provide roomy areas for the pigeons to fly about in), feed sound, clean grain, and furnish a supply of fresh, *clean water at all times*.

Many of the infectious diseases, such as roup, canker, etc., are, no doubt, communicated through the medium of food and water. For instance, a bird with roup will pick among the grain in the feeding-dishes for some favorite grain; in doing so he throws the other grain aside with his bill, and the grain naturally becomes polluted with the secretions from his nostrils. This grain being afterwards picked up by other birds the disease is thus spread. So in drinking, the diseased pigeon thrusts its beak up to its nostrils into the drinking-water, and thus the water becomes contaminated. It is, therefore, absolutely necessary to remove, as soon as possible, from the main flock any specimens showing symptoms of disease. Daily observation will acquaint you so well with your birds that you will notice at a

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glance almost if any individual specimen is ailing. Prompt attention to it will save loss and a great amount of trouble. It should be removed at once to a separate apartment and given the best of care.

Prompt attention and the application of the different remedies I shall suggest will usually prove efficacious and save your birds and prevent an epidemic. The old adages, "A stitch in time saves nine," and "An ounce of prevention is worth a pound of cure," are maxims that can not be too closely observed. In purchasing new stock be careful that they come from healthy lofts. If you have any suspicions place them in quarantine, as I have advised with birds returning from an exhibition, for the presence of one or two birds suffering from roup, canker, or even a louse-infected loft may cause you an endless amount of trouble and the loss of some of your best birds.

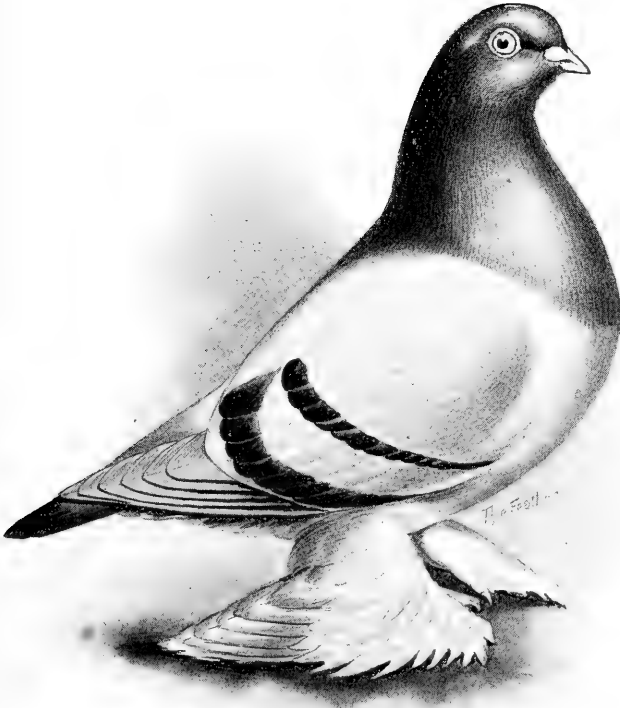
For the sake of a better understanding of the diseases of pigeons, I purpose classifying them under different heads or divisions:

FIRST DIVISION.

DISEASES OF THE HEAD, BRAIN, AND NERVOUS SYSTEM.

APOPLEXY.

While not a common disease among pigeons, cases sometimes occur, especially among birds kept closely confined, highly fed, and having little exercise. The birds may be suddenly startled, one will rise with the rest, fall back to the floor, move around in a dazed condition, and when taken in the hand suddenly gasp and



**MUFFLED SILVER LONG-FACED TUMBLER
COCK.**

This bird is alike in points to the other Tumblers, and is a soft, creamy white, with dark bars; the darker the better to form the contrast. They have many admirers in this country and they make an elegant variety to breed from a fancier's standpoint.

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fall over dead. This I should call apoplexy. An examination will prove that it is fat and showing no indication of disease. The trouble is caused, no doubt, by a rupture of some blood-vessel in the brain produced by the sudden fright. Should it fall and yet live, give six pellets of belladonna every two hours.

VERTIGO.

This is a disease peculiar also to highly-fed and pampered birds. The symptoms are a staggering gait when attempting to walk and frequently falling forward on its breast. Its eyes are dull and its head is held rigid and stiff. Hold its head under a gentle stream of cold water, remove it to a quiet, secluded cage, and give a gentle purgative—one of Carter's Little Liver Pills or half a grain of Epsom salts. Treated homeopathically, I should give it six pellets of belladonna dissolved in a cup of water. If it is unable to drink, turn a teaspoonful down its throat every hour or two.

PARALYSIS.

This is also a disease of rare occurrence, and chiefly affects laying hens, especially young ones. It usually affects them after laying the second egg. You will find the sufferer lying on her breast, with her legs stretched out behind, entirely helpless. Fortunately, as a rule the trouble is only of short duration. Taken up and laid in a quiet, retired place, they recover in the course of a day. Gently rubbing the small of the back and thighs sometimes hastens recovery. Should the paralysis not yield after a few days to treatment of this kind, there is not much hope for it, and it might as well be put out of its misery. As a remedy, give six pellets of gelsemium dissolved in a teacup of water.

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INFLAMMATION OF THE EYES.

The lids of the eyes frequently become inflamed through colds or in connection with roup. There is a sticky secretion, and the bird to relieve itself frequently rubs its head on its wing-bows, and this soon becomes fouled and dirty. A white spot sometimes shows itself in the center of the eyeball, the eye becomes dulled, and the sight is eventually destroyed. This is usually an accompaniment of roup, and I have never found it curable. The sight is, no doubt, destroyed before the white speck appears outwardly. Where there is simply a slight inflammation of the eyelids caused by cold, bathing the eyes with warm milk and water or a solution of sugar of lead, which your druggist will prepare for you, usually effects a cure. What is most necessary is that it should be taken in time. A gentle laxative, such as a small pinch of Epsom salts, is beneficial given once or twice. The homeopathic remedy, gelsemium, six pellets in a cup of water, is also recommended.

SPOUTS.

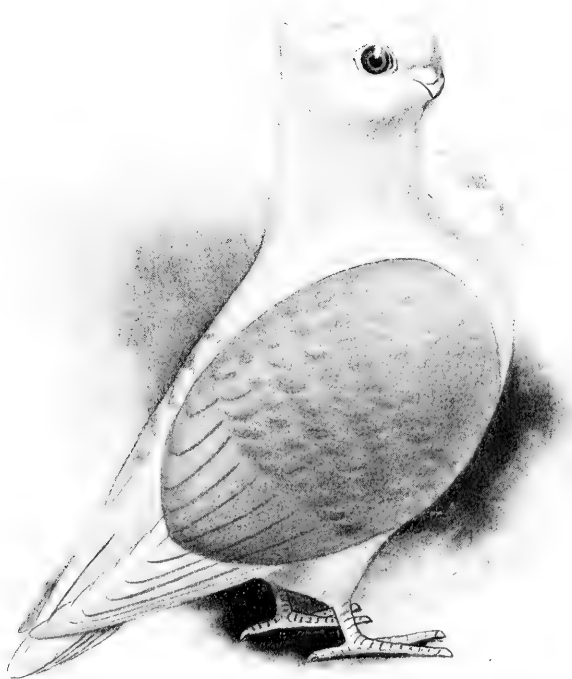
This is a trouble peculiar to Carriers and Barbs. It is caused by the rapid growth of the eye-cere or wattle, which instead of spreading out evenly forms a fold like the spout of a pitcher, and hence its name, spout. It is usually formed on the lower lid, and is attended with more or less inflammation in the locality. On the inside will be found small, angry looking little nodules or pimples; this induces a secretion that, if neglected, forms around the lid a yellowish crust of matter. The inflammation causes the bird to rub its eye for relief on its shoulder, and this, too, soon becomes covered with the sticky fluid, which is no improvement to the bird's appearance. By some they are supposed to be caused by a

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peck from some of its companions, but experience proves that it is from the rapid growth of the wattle. The only cure for them is removing them by a pair of curved surgical scissors. In cutting be sure to remove at same time the pimples spoken of, as to leave one of them is to leave one of the main causes of irritation. This can be done by drawing the spout well out with the left-hand fingers and giving a quick cut. Some material will have to be provided to stop the flow of blood. Touching the wound with lunar caustic is often done, which sears up the severed blood-vessels. A small piece of cobweb is good, and if the bleeding is not very copious a little flour will answer. It needs two to perform the operation well, one to hold the bird and one to do the cutting. After it is cut, and the wound seared over, rubbing it with a little vaseline occasionally until healed is beneficial. The feet need to be hopped for a day or two to prevent its scratching the eye with the foot, and a collar of pasteboard should be placed on the neck, to prevent rubbing the eyes on the shoulder. This can be made by taking a circular piece of pasteboard about four inches in diameter, and cutting a hole in it large enough to slip over the head. By attending to spouts when they first begin to form they can be easily removed and the eye-wattles kept smooth and regular. Frequent bathing with a soft sponge and warm water will do much towards keeping the wattles clean and in good condition. Use the homeopathic remedy, apis, six pellets in drinking-cup; this will allay inflammation.

MEGRIMS.

This is a nervous disorder in which the bird staggers from side to side when attempting to walk, twisting its neck in all directions, sometimes backwards, again



YELLOW TURBIT HEN.

The Yellow Turbit is another of the attractive varieties of a large family of pigeons. This class of birds is exceedingly popular and claims a large number of patrons. They are to be seen in great numbers and have many ardent admirers at the shows.

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forward between its legs, and then from side to side, apparently having no control of it. These actions are indicative of great distress, and quickly awaken one's sympathies in the bird's behalf. That it is largely a nervous affection is evident from the fact that it is worse when startled. It may be standing apparently in a natural condition and on being disturbed suddenly, it will begin to throw its head back, and then twisting it as described and finally rolling over on its side helpless. It is deemed by some an incurable disease, but I have found that gently showering the back of the head, keeping it in a quiet place, and giving one-half teaspoonful of Rochelle salts wet, every third day, often effects a cure. Unless, however, a valuable bird, I should advise putting it out of its misery as soon as attacked. It is caused, no doubt, by high living and insufficient exercise.

TUMORS.

These frequently form on various parts of the head in the shape of round, hard bunches, which, on examination, are found movable under the skin. They can be easily removed by making an incision with a sharp knife and squeezing the interior lump out. This will be found to consist of a yellowish, cheesy matter, and is, no doubt, of scrofulous origin. As soon as removed, have ready a little burnt alum to sprinkle in the wound; this congeals the blood and the wound soon heals.

ROUP.

This has always been one of the greatest scourges of the pigeon-loft, because it so frequently attacks the young birds about the time they are able to care for themselves and are going through their first molt. It attacks, however, both old and young, and is caused by

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sudden changes in temperature or exposure to draughts, and is highly contagious. Its symptoms are sneezing, a watery discharge from eyes and nostrils, and considerable fever. If not attended to at once, in the course of a day or so the discharge from the nostrils thickens, and if the bird is examined the slit in the roof of the mouth will be found filled with a thick jelly-like mucus, sometimes streaked with blood and minute spots of canker. The throat is very much congested, and the discharge from the eyes has become thick and sticky. If still neglected the discharge from the nostrils becomes fetid and filled with cheese-like matter, one or the other of the eyes becomes involved (rarely both) and the eyeball is entirely eaten away and its place filled with this cheesy substance. When it reaches this stage the sufferer might as well be killed, for while I have known them to recover they are never afterwards desirable as breeding birds. In your daily visits to your birds should you notice any of them showing symptoms of cold, separate them at once, put them in a dry, warm place, and dissolve in water six pillules of the homeopathic remedy, *spongia*. Put this in their drinking-cup, and you will soon realize its good effects. Should the whole loft be affected at once, as is sometimes the case during a cold storm in the fall of the year, dissolve from one to six dozen of the pillules in water according to the number of birds, and place this in the general drinking-water vessel. This will be found to be a sovereign remedy surpassing anything else that can be recommended. It may be necessary in some cases to wash both eyes and nostrils in warm tea or water to remove the thickened matter collected there. Renew the drinking-water every other day. Some cases may prove more obstinate than others, but careful attention and the con-

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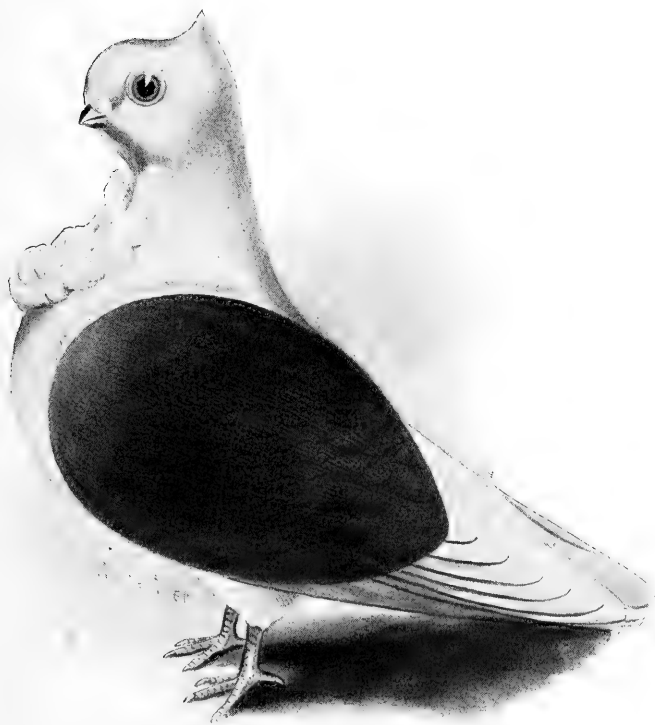
tinued use of spongia will bring them through. Swabbing the throat with a solution of borax is also excellent.

CROSSED BILLS.

While this is not a disease, still it is an affection of common occurrence among all varieties of pigeons, and is caused by the manner of feeding that some old birds have, and on the principle "as the twig is bent the tree is inclined," the young bird's bill gets a twist that it never recovers from, and as it grows and the bill hardens it becomes a permanent defect. Should it be discovered early either change the feeder, or bring the bird up by hand, at the same time manipulating the bill so as to gradually restore it to its natural shape. After the defect has become permanent, the only course to pursue is to trim it occasionally to as near a natural shape as possible, being careful in trimming not to cut into the quick or fleshy portion of the bill. As this is not an hereditary defect such birds, if of good stock and otherwise of good quality, can be used as breeders.

PIP.

This is a trouble with which pigeons are rarely afflicted, but it is sometimes found among them. The bird, it will be noticed, does not eat well, gives indications of an uncomfortable condition of the tongue by opening the mouth and moving the tongue uneasily. On examination the tongue will be found dry and hard on its surface, and the end elongated and split into three or four bone-like parts. The remedy is to clip this splintered portion of the tongue off with a pair of sharp scissors, not so high up as to make it bleed, but far enough to remove the offending portion. One operation of this kind is usually enough, but it is well to watch the patient, and if a recurrence of the trouble



BLACK-WING TURBIT.

The number of breeders of Turbits is constantly on the increase, and certainly so beautiful a little bird deserves numerous admirers. It should be as small as possible to be strong, round, and cobby, with broad chest; short legs and neck; tail and flights, carried well off the ground; round head; large, dark, hazel eyes; short and thick beak; prominent gullet, and long frill, opening from the center to right and left; color, white, excepting the shoulders, which are black.

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occurs clip it again. Spongia, as advised for roup, is a remedy for this ailment also.

SMALLPOX.

This disease, while rarely affecting pigeons in this country, is sometimes found among young pigeons, and consists of an eruption of small pimples or pustules about the head and upper portion of the neck. It is contagious, and when you find a young bird affected quarantine him at once. Unless giving promise of a fine specimen, I would advise sacrificing it at once. If worth saving, remove immediately to a warm, dry room, touch the spots or pimples with a solution of blue vitriol, and give as a medicine arsenicum, six pellets in a cup of water, renewing every day. Give this remedy two or three days, and if no improvement is noticed try rhus tox in same proportions.

SECOND DIVISION.

DISEASES OF THE LUNGS AND THROAT.

ASTHMA.

This disease, as in fowls and the human family, is indicated by difficult breathing, the mouth is opened, and the bird frequently gasps for breath; sometimes there is a slight wheezing sound accompanying every inhalation of air. As it is natural for pigeons to breathe entirely through the nostrils this is an indication that the nostrils are obstructed either through inflammation or some foreign substance. Bathe the nostrils and roof of the mouth with warm milk and water, and when dry, rub both well with camphorated oil. Give also spongia in its water as for roup.

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CONSUMPTION OR GOING LIGHT.

This is a disease that seems to arise from various causes, and is difficult of diagnosis for the reason that while the symptoms vary, the results are the same. Sometimes it is caused by tubercles on the lungs, sometimes from a diseased condition of the liver, sometimes from inflammation of the bowels and, again, from worms. It often affects young birds three or four months old, particularly the more delicate kinds; sometimes birds whose eggs have not hatched, or whose young have died before the soft feed was fed off, and often old birds about molting time. With some there is a slight cough and ravenous appetite and yet they do not continue to grow and thrive. In such a case as this I should suspect tubercles on the lungs or lung consumption. Should there be copious watery discharges mixed with blood and of such a nature as to cling to the feathers about the vent, clogging and befouling them, I should suspect inflammation of the bowels or some trouble with the liver. Should none of these symptoms appear and yet the pigeon be uneasy and continue to grow thin, I should suspect worms. Should it occur about molting time, I should suspect a debilitated condition of the system either from overbreeding or other causes. In the case of consumption of the lungs I would suggest capsules of cod liver oil, one every day, or Parrish's Chemical Food. This is a remedy used at one time largely by Philadelphia fanciers, or the homeopathic remedy *calcareo carbonica*, six pellets dissolved in water. For liver disease, Carter's liver pills, one every two or three days, or the hom. remedy, *podophyllum*. For diarrhoea or dysentery from inflammation of the bowels a few drops of paregoric in a small quantity of water or hom. remedy *arsenicum* in proportions as previously de-

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scribed for these remedies. If a pigeon is sick from molting, a castor oil capsule will sometimes benefit it. Parrish's Chemical Food is always good, and Long's Atrophy Lozenges are highly recommended, also the hom. remedy *calcarea carbonica*. At such times if the oil-gland of the ailing birds is examined, it will be found swollen and the oil congealed; if squeezed gently the oil will ooze out in long worm-like strings of a yellowish color, streaked with black. This gland should be sponged with warm water and gentle means used to get it to resume its natural functions. Removing the entire tail will frequently effect a cure, and in all cases of going light this is one of the first things I would do. While this disease is not contagious I would remove the bird to a warm, quiet place. If worms are suspected, small pieces of garlic about the size of a Canada pea given twice a day will prove a cure, or the hom. remedy, *santonine* in six-pellet doses.

CANKER.

This disease is undoubtedly of scrofulous origin, and may be said to be hereditary, and consequently born with the pigeon. Like consumption it descends from parents to the young. For this reason old birds showing a tendency to cankerous eruptions should not be used as breeders. It is a loathsome, filthy disease, and I believe in a measure contagious; therefore when it makes its appearance in a loft, stringent measures should be taken to stamp it out even to sacrificing if necessary the subjects of its attack. It most frequently attacks the mouth and throat, sometimes making its appearance first in small deposits of a yellowish, cheesy matter, on the sides of the bill, under the tongue, and in the back of the throat around the opening of the windpipe. In Car-



SATINETTE.

The Satinette was the first imported of the "Eastern Frills," and is preferably a small, good, round-headed bird, showing in profile an unbroken line from base of skull to tip of short, stout, slightly-curving beak. The wattle fine in texture and small; gullet, full; frill, abundant, long feathered, and opening out well from left to right; the peak fine, sharp, and carried well up. It is white-bodied, with shoulders of pinkish-brown, laced with a combination of purple and brown; the tail is dark, with clear white spot at the end of each feather, showing when spread, a band of white across the tail.

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riers and Barbs it often affects the ear-passages, also the eye- and beak-wattles. If taken at once it can be easily checked, but if neglected even for a short time the whole interior of the mouth becomes involved, when it becomes a difficult, if not an impossible, task to cure it. Young birds in the nest are frequent sufferers from it, and here is where I would commence to eradicate it from the loft by annihilating them at once. The cause of it is attributed by some to filthy surroundings and unclean water, but as I have known it to be of as frequent occurrence in lofts where everything was as clean as care could make it, as where a filthy and neglected condition prevailed, I am inclined to believe it arises more from confinement, the use of nitrogenous foods, such as peas and Indian corn, and a lack of green vegetable food. Pigeons at liberty are not as subject to its attacks as those confined and highly fed, for the reason that they have plenty of open-air exercise and can pick up what green food is necessary, thus keeping the blood cool and pure. Remedies recommended are numerous, but I have never found anything better for outward application than lemon-juice and sugar. Squeeze the juice of a lemon into a teacup or wide-mouthed bottle; add to this as much sugar as it will dissolve, so as to make a thick syrup. Remove the canker carefully with a small flattened piece of wood, being careful not to cause profuse bleeding. Then with a camel's hair pencil paint the sores with the lemon syrup frequently till the canker is killed. A wash of borax and water is excellent for swabbing the throat and mouth; a piece of sponge on a stick will answer for a swab. As an internal remedy, give hom. remedy, arsenicum.

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INFLAMMATION OF THE LUNGS.

This arises from a severe cold that settles on the lungs. Its symptoms are restlessness, labored breathing, and high fever. Rub the body under the wings with camphorated oil; also give internally spongia or aconitum.

THIRD DIVISION.

DISEASES OF THE DIGESTIVE ORGANS.

CROP BOUND.

This trouble, for it can hardly be called a disease, is caused by an obstruction of the passage between the crop and the gizzard. It may be an excessively large kernel of grain, or a large piece of gravel, or a grain of corn may have become crossed and lodged. The gizzard in its working is constantly calling for something to grind, creating what we know as an appetite, and the sufferer is constantly picking up grain to satisfy this demand, until in time the crop becomes so full that it can contain no more. This, likewise, from moisture begins to swell, and eventually, unless relieved, seems ready to burst. In the meantime the poor bird, although with a crop loaded to overflowing, grows thinner and weaker and unless relieved, literally starves to death. This trouble is chiefly confined to Pouters, it being a rare thing to ever find other varieties afflicted in this way. When first discovered, and before the bird becomes "gorged," as it is termed, it can frequently be relieved by washing out the crop. To do this, insert a small funnel into the throat, letting it extend below the mouth of the windpipe, then turn into this a cupful of

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blood-warm water. Remove the funnel and work the crop with the hand, thus separating all the different kernels within the crop. Then invert the bird, letting its head hang down, and with the fingers gently work the grain out through the gullet; the water coming with it makes this an easy matter, and in time the crop can be entirely emptied. Care must be taken while doing this that the bird does not strangle, and so it will be necessary frequently to let the bird resume its normal position and regain for a time its breath. By working in this manner the crop can be entirely cleaned, also the obstacle removed from the passage to the gizzard, and the pigeon in a few days be as well as ever. Sometimes a dose of castor oil is given and the effect of this is to clear the crop and obviate the necessity of washing it out. Old fanciers, in treating this difficulty, used to place the bird in a stocking, and hang it on a nail where it would be quiet and could get nothing to eat, at the same time working the crop with the fingers. This would often effect a cure. But there are cases so far advanced as to require the application of the knife as a last resort. For this purpose take a sharp penknife, remove the feathers at the upper part of the crop, cut through the true skin and gently work that back until the crop is exposed; then make an incision in the crop itself large enough to let several grains of corn out at once. Then introduce the funnel, turn in warm water, working the crop as before mentioned, remove the funnel after the mass has become soft, and gently work it out through the opening. It will usually be found very offensive and the grains swollen to twice their natural size, but in time the whole mass can be removed and probably at the same time the offending kernel. Wash the crop out thoroughly, then with a needle and silk thread, taking an

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over-and-under stitch, draw the edges of the crop together. After this is done, draw up the outer skin and either sew this also, or secure it firmly with strips of court-plaster. Keep the bird by itself, giving it a little soaked bread, as well as its drinking-water, and in a few days the wound in the crop will be healed and the bird entirely recovered. By making the incision at the upper portion of the crop there is no danger of inflammation setting in, as would be the case if the cut were made at the lower portion where the food and water would be likely to rest. Rubbing the wound every day with a little vaseline aids it in healing.

FOUL CROP.

This is caused by indigestion and the food in the crops becomes watery, sour and very offensive. I would advise washing out the crop by way of the mouth and warm water. After thoroughly cleansing the crop, give a dose of a castor oil capsule and when this has done its work dissolve six pellets of nux vomica in a cup of water, letting the bird drink at will. Feed lightly for a few days with soft food. When fully recovered grain can be fed as usual.

DIARRHOEA.

This disease in pigeons is usually termed scouring, and is caused by chill, by foul water, and by eating unripe or musty grain. Sometimes new grain will so affect pigeons as to cause the floor of their loft or house to be as wet as though sprinkled with water. When the grain is supposed to be the cause of the trouble, the sooner it is changed the better. Usually where this is the cause the whole flock will be affected alike. In case of chill or foul water it will probably show itself in an individual member. If disease is traced to bad grain,

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change to old, sweet grain and give, for a short time, arsenicum in their water. If from foul water give fresh, clean water and a few doses of mercurius corrosivus. If from cold give ipecachuana homeopathically.

CHOLERA.

This is a disease not common among pigeons, although in some forms of diarrhœa they drop off so suddenly as to suggest the belief that cholera was the cause. If the bird shows loose, greenish discharges, appears very weak and tottering, I should suspect cholera, and administer at once arsenicum as recommended for diarrhœa.

WORMS.

This trouble is sometimes hard to distinguish from diarrhœa, as the bird has a watery discharge and grows thin, and the plumage has a staring, lustreless appearance. It is pale faced and white about the eyes. Its appetite seems variable and it is restless. For this give small pieces of garlic about the size of a pea, a small piece of gum aloes, or the hom. remedy, santonine.

LIVER COMPLAINT.

This is a disease difficult to detect although of quite frequent occurrence. The bird grows thin, its plumage is dull and staring and its discharges are loose and sticky, adhering to the feathers of the vent and streaked with reddish brown. The oil-gland will also be found closed as previously described. When well advanced the gait becomes feeble and tottering, and if neglected the bird finally dies. A post mortem examination will show the liver to be very pale in color, and very soft, in fact rotten, small ulcers will also be found growing on it. The cause is uncertain, but probably arises from a scrofulous condition of the sufferer, the scrofula seat-



BLUETTE.

The Bluet is of the "Oriental Frills," and its main characteristics are the same. It is of a clear blue color with white bars edged with black; dark blue tail with white spots, which are also edged with black.

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ing itself in the liver, instead of the joints and lungs. If liver disease is suspected, treat with hom. remedy, podophyllum, six pillules in water.

PROLAPSUS OR FALLEN GIZZARD.

This is a trouble frequently found in pigeons, and while called fallen gizzard is really a relaxation of the muscles supporting the intestines, which allows them to settle into the abdominal cavity; here they usually become surrounded with a yellowish, cheesy matter, which hardens as the time passes and becomes so firm and prominent that it has given rise to the idea that the gizzard has come down into the cavity, or "fallen" as fanciers say. The cause is from natural weakness caused probably by over-breeding. There is no remedy, and as such a bird never recovers and is useless as a breeder it might as well be killed when it is finally determined that it has this trouble.

CONSTIPATION.

This sometimes affects pigeons, especially those confined and fed on highly stimulating grains and seeds. It shows itself in restlessness and difficulty in its evacuations. An occasional feed of green food of some kind will prevent it, or feeding soaked bread will keep the bowels open. Six pellets of nux vomica dissolved in a cup of water will effect a cure.

FOURTH DIVISION.

DISEASES OF THE SKIN.

SCURF OR MANGE.

This is a condition brought about by neglect, lack of bathing facilities, close confinement, and a dirty condi-

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tion of the loft. The feathers are dull and staring, the bird restless and uneasy. On examination the body will be found covered with fine feathery scales even extending out on the shafts of the feathers. Removal to clean quarters, a good, warm bath, and a regular daily bath will generally cure the patient. Give hom. remedy *calcareo carbonica*.

MOLTING.

This is not a disease but a natural process of changing their feathers which pigeons go through annually in the fall of the year. When in a healthy, normal condition the change is so gradual that they are but little affected by it. But sometimes it is slow and labored, and the pigeon suffers accordingly, loses its appetite, and is generally languid and inactive, and the shafts of the feathers are dry, brittle, and hard. It is frequently of benefit to pull both flights and tails; this sometimes seems to change the whole condition of the pigeon, and the molting goes on more naturally and rapidly. Oily foods are good at such a time, such as flax-seed, sunflower-seed, and hemp-seed. A little each day will do much good. If the process is slow and tardy, give hom. remedy *calcareo carbonica*. If much fever, *aconite*. A little iron tonic in the water is at such times a great aid to regular molting, also plenty of good food to keep up their strength; this combined with the bath and regular exercise does more than medicine.

INFLAMMATION OF THE OIL-GLAND.

This is a trouble usually attending some other diseased conditions of the body, and has been previously mentioned. The oil hardens in the gland at the root of the tail and when examined the gland appears very much distended and swollen. Apply warm water and

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gentle pressure until the hardened matter is worked out; do this two or three times each day until the gland resumes its normal condition and the oil is secreted as usual. Pulling out the entire tail-feathers, especially if in the fall of the year, often effects a perfect cure. Use internally, hepar sulphur, putting eight to ten pellets in the drinking-cup with clean, fresh water, changing water every other day until natural condition is restored.

FIFTH DIVISION.

DISEASES OF THE LIMBS.

CORNS.

This is a name given by fanciers to a disease of a scrofulous nature affecting the joints of wings and legs. It first makes its appearance in an inflamed condition of the joint affected. The bird will, if affected in the wing, drop the wing slightly, seem uneasy, and peck often at the joint. If in the joints of the leg, it will limp and frequently draw the leg up. Noticing any of these symptoms, catch the bird and examine it for the trouble. The joint will be found much inflamed, and sometimes hard and firm and again apparently filled with a watery matter. If neglected the swelling will enlarge until the skin breaks, and the cheesy scrofulous matter that has been gradually collecting presses itself out, and is covered with a dark-colored scab. When it reaches this stage the pigeon better be killed and put out of its misery, as it can not be cured, and while, if a hen, could be bred from, it is in no way advisable to breed from birds in such a diseased condition. If the disease is still neglected, and the pigeon allowed to live,

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the matter continues to collect until, if on the leg, the whole thigh becomes involved, but no humane fancier would allow it to progress thus far. The cause is uncertain, some attributing it to blows, others to rheumatism. I am inclined to think it arises from a strain or a blow whereby an irritation is provoked, and the bad humors of the body induced to center at this point resulting, if neglected, in the scrofulous deposit before mentioned. If noticed in its early stages bathe with hot water, wipe dry, and then rub with strong spirits of camphor, or paint with iodine and acetic acid in equal parts, this to be done once or twice each day until decided no cure can be effected. Give internally the hom. remedy thuja.

CRAMP.

This is a trouble pigeons are not much affected with. It is, no doubt, caused by cold and dampness, and affects the limbs and feet, sometimes causing the cords to contract so as to draw the toes of the feet tightly together towards the sole of the foot. As a remedy, soak the feet in warm water and rub well the legs and feet with any good liniment. Give internally rhus tox.

SIXTH DIVISION.

DISEASES OF THE EGG-ORGANS.

EGG BOUND.

This is a disease in which the egg in its passage through the oviduct, becomes clogged and interrupted in its course. The bird sits on the nest continually, and when taken in the hand and examined by pressing the fingers against the abdomen the egg can be felt like a

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hard, round substance. If it still remains after attempts have been made to dislodge it, the scrofulous cheesy matter so often mentioned in connection with pigeons, will begin to collect until it becomes firmly fixed where checked, and the bird becomes emaciated, helpless, and gradually dies. Many times a trouble of this kind will lead one to think of fallen gizzard, and naturally be at first inclined to believe it to be this trouble. In this affliction, however, the abdomen does not swell and become distended as in fallen gizzard, and this is the principal feature by which one can be distinguished from the other. The cause of this trouble is, no doubt, want of proper exercise, and an unnatural mode of living, causing a lack of muscular force in the action of the oviduct, also a feverish condition of same, resulting in a diminished secretion of mucus, which usually renders the passage of the egg to the vent easy. The egg in its passage downward, reaching a dry or feverish portion of the oviduct, becomes checked in its course, and the weakness of the muscles of the oviduct, not being able to force it by this point, it remains immovably fixed. The remedies usually applied are holding the abdomen and vent of the sufferer over steam, not hot enough to burn, and oiling a feather with sweet oil and introducing it into the vent. I would recommend if the passage to the oviduct can be determined, a small injection of warm sweet oil, the object being to supply the lack of mucous secretion usually furnished by a bird in robust condition. Sometimes a small quantity of New Orleans molasses is given internally, this having a loosening effect. Hon. remedy gelsemium can be given in water as before described.



BLACK-LACED BLONDINETTE.

This bird is a descendant of the Satinette, and is like it in markings of the tail and shoulders. It is of the Turbit family and is altogether a very-much-thought-of bird for show purposes, being attractive of plumage and dainty in size and carriage.

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BARRENNESS.

It often happens that a pair of birds will mate, and appear perfectly satisfied with one another, and yet the hen never lay, although in apparent good condition and going to nest and sitting regularly for a time. The cause of this in a young hen, is too frequent laying, without success in hatching, whereby the ovaries are overtaxed and for a time they refuse to do their work. In such a case giving the pair a pair of eggs, allowing them to hatch and feed the young, many times restores the organs to their natural conditions, and the hen goes on breeding as she ought. If an old hen, however, while she and her mate will perform all the duties in the care of the young devolving upon them, she never comes back to a laying condition. Such a hen, unless a fine exhibition specimen, should be killed, and not as in some instances has been done, sold to an unsophisticated fancier, who would look in vain for any progeny from his purchase.

SEVENTH DIVISION.

FRACTURES AND WOUNDS.

Broken wings and limbs, while not common, sometimes are met with in pigeon breeding. If a bird is found suffering from such an accident, one wants to take into consideration whether it is worth wasting time and experiment upon. If worth saving, examine and see to what extent it is injured. If a good, clean break, have some one assist you, first providing splints of pasteboard and wrapping material; then unite the broken portions as near as they originally were as possible,

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apply the splints each side and wrap with the bandage quite firmly. After this is done have ready some plaster-of-paris and smear that all over the bandage, holding it until it dries, this when set will keep the limb in place. This can be kept on until it is probable that the bone has united, which ought to be in the course of two weeks; it can then be carefully removed, and if well done the bird will be found but little the worse for the injury. If the wing is broken it can be served in the same way, but the wing should be so secured to the body that it can not bear its own weight. This can be done by wrapping the bandage around the body, first laying the broken wing close to the body and including that in the wrapping. If the limb or wing is broken at the joint, there is little need of trying to reset it, as, if healed, the wing or leg would always be stiff, and a lame or stiff-winged pigeon is a blemish to any well-conducted loft.

BROKEN BEAKS.

Pigeons' beaks sometimes are broken by quarrelling and accident. These can be repaired by properly applying short, thin splints on the top and sides. They soon heal when splints can be removed, and if well done there will be but little alteration in the shape of the beak. It will be necessary to feed the sufferer for awhile by hand, and it should be kept in a quiet place away from companions. Give, in this case, as for broken bones, one or two daily doses of aconitum, three pellets at a dose. This will tend to allay fever if any arise.

TORN CROPS AND OTHER FLESH WOUNDS.

It frequently happens with pigeons flying at large, especially Homing Pigeons, that they come home often badly wounded by hawks and the murderous gun. As soon as discovered, examine the wound, washing it care-

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fully with warm, soft water and a little carbolic soap. When thoroughly cleansed, remove the feathers about the wound, and if possible to do so, draw the edges together holding them in place by strips of adhesive plaster. If the nature of the wound will not permit of this, then dress with some healing ointment, bandaging if possible, and keep the pigeon secluded from its mates.

INSECT PESTS.

Pigeons are infested at times with a number of parasitic pests. They are the results, in a measure, of a neglect of proper cleanliness in the loft, and a lack of bathing facilities. Lofts frequently cleaned and white-washed and birds well supplied with bathing-water are seldom annoyed with lice or fleas. We may excuse the novice whose loft becomes once infested with lice, or an ignorance of these pests may lead to their getting the upper hand, but after one experience there is no excuse for a recurrence of the evil. The fancier who has once had a personal visit from them and felt the torment of their crawling up the back, between the shoulders and in the hair at the back of the neck, will be very likely to remember it, and ever after use every available means to rid his premises of such an irritating plague. There are five different varieties of these vermin. They are known as lice, feather-lice, mites, fleas, and ticks.

LICE

Are usually the result of a neglected condition, and a bird in a delicate and sickly condition will generally be found to be more or less infested with them. To birds in a healthy and robust condition and that have frequent access to the bathing-dish they are comparatively unknown, as they are lovers of filth, and only thrive where cleanliness is a stranger. Birds with short bills

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like Barbs, Almond Tumblers, Owls, Turbits, and Oriental Frills are more apt to suffer from their attacks than long-billed birds. Should they make their appearance among well-kept birds, they soon make it evident by their restlessness and their constantly seeking for the intruders among their feathers. The louse is about the size of an ordinary pin's-head, and is of a yellowish gray color, is very active, and where few in number are hard to detect, as they run rapidly from place to place. Their favorite location, however, is about the base of the neck, and among the feathers at the vent of the pigeon. If their presence is suspected, here is the place to look for them. A little camphorated oil applied around the vent and a plentiful dusting of Persian insect-powder along the sides at the root of the tail and at the base of the neck will relieve the infested bird. It will also be well to examine these localities for "nits" or eggs, and when found, pluck the feathers out and burn them. An occasional future examination will be a safeguard against their attacks. Should it be found at any time that the old birds are being annoyed by them, carefully examine the young squabs in the nest, for they are liable to suffer more from their attacks than the old ones. If found, apply the same treatment to them as to the old, and never leave one of the pests alive that can be hunted out. In applying the powder and oil, it will be well to hold the sufferers over a white cloth or paper, so that when the lice leave the pigeon they can be destroyed, otherwise some may escape, only to breed and become again a pest. A little naphtha in place of the camphorated oil can be used; it evaporates quickly but is death to insects.

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FEATHER-LICE.

These are an entirely different insect from the louse just described, being long and thin in form and of a grayish color, the head and neck being slightly darker than the body. As their name intimates, they inhabit the feathers of the pigeon, and are supposed to be rather a benefit than otherwise. As they are seldom seen except during warm weather they are supposed to devour the fine, fluffy material at the base of the lesser feathers, and thus relieve the pigeon of its super-abundant coat so kindly provided by Nature for its protection through the colder months of the year. As the molting season comes on, they disappear with the falling feathers, and are seldom seen again until summer of next year. They are not much noticed on well, strong pigeons, but on sickly pigeons they show plainly, also when a pigeon dies. The reason of this is probably, as the bodily warmth of the pigeon is gone, they crawl to the outside of the feathers for the purpose of seeking more congenial quarters. Their motions are very slow and as it takes some time to change their location, they are plainly seen. In a neglected loft they will sometimes become so plentiful as to be an annoyance to the pigeons, especially among the crested and hooded varieties. If they seem to be uncomfortable from this cause, a plentiful dusting of Persian insect-powder will reduce them in numbers.

MITES.

This insect is the worst annoyance in the way of a pest that the pigeon keeper has to contend with. They are about the size and color of a grain of maw or poppy-seed. The microscope shows them to be similar to a small crab, and like that shell-fish, they travel sideways. They multiply rapidly, and when they once get the up-

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per hand they fairly swarm. They select for their hiding-places the cracks and crevices of the loft, in the walls, about the perches, about the nesting-places, under the nest-pans, and even in the nesting-material itself. They are not much seen during the days, but at night they sally out in hordes, making the life of the adult and the squab miserable. They sometimes become such an annoyance that pigeons having their liberty seek other quarters. After a night's incursion, if an examination be made of their haunts, they will be found clustered together, probably for warmth, and red with the blood of their victims. The young squabs suffer at times so much as to retard their growth, and the old birds desert both nests and young. They thrive like the feather-louse, chiefly during hot weather, and this is the time to watch for them, and on the first indications of their presence cut their career short. Make an examination of loft early in the summer, and keep up the supervision while the warm weather lasts. The first indications of their presence will be a little line of bluish-gray dust, seen on the edge of some joint or crack. A closer examination will reveal a colony of the little villains. At once take the kerosene-oil can and fill every crack and crevice full of the oil. This will eradicate them as effectually as anything one can find, as this oil is death to all insect life. Carefully examine the nests and nest-pans and if any are found about them give them the same dose. Frequent observations will free the loft entirely from them until the season is past for them to annoy and make life a burden.

FLEAS.

Sometimes, though seldom, a loft will have a visitation from fleas. They are much like the fleas that an-

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noy the dog and the cat, but smaller and of a shiny black. They frequent the nests chiefly, and while they suck the blood of the squab do not seem to annoy the old birds. Persian insect-powder makes short work of them. If discovered, burn the nesting-material and sprinkle the powder in the new material and about the nest or nest-pan. Kerosene will be also found effectual.

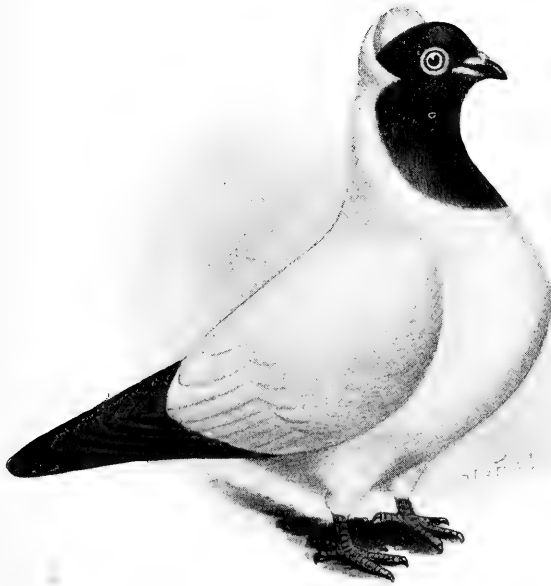
TICKS.

This is an insect not very common, but none the less an annoyance when it makes an attack. They usually fasten about the head of the bird, and are great blood-suckers, frequently causing the death of the young squabs. They are very quick in their motions, and may be seen occasionally darting through the feathers of the birds. They are about the size of a bed-bug, and I am inclined to think have given rise to the idea that pigeons draw these bugs to a house. But this tick I mention I have never known to annoy the human family. Persian insect-powder will clear them out.

There is another bug found at times very plentifully about ill-kept pigeon-houses. It is about the size of a small grain of buckwheat and of a dull brown color. It is, as far as my observation goes, harmless, never troubling the pigeons, and only desiring to be let alone. It comes through the warm weather, and while to all appearances doing no harm, is repulsive and suggestive of a lack of care.

* * *

In this connection, while treating of vermin, I may mention the four-legged vermin that occasionally visit a pigeon loft; namely, rats and mice. These are capable of causing great loss to the fancier, and need to be guarded against as carefully as the insects. If a loft is



NUN.

The striking feature of the Nun is the great contrast in color; the body and shoulders being pure white with face, bib, and tail black. It is the size of an ordinary pigeon, compact and graceful. Head and beak are like a flying Tumbler but in proportion are heavier. The important point of this bird is the shell which rises from the base of the skull extending on either side to the level of the eyes, full feathered, and upright, rising perpendicularly at back of head. The flights are black with nine or ten feathers each; the eye, pearl, with the cere fine, small, and dark colored.

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properly constructed they can find no entrance ; but once they find a vulnerable spot they are sure to make an entrance, and I have known rats in a single night to kill as many as forty high-priced birds. Mice eat the eggs and food and occasionally, though seldom, will attack the squabs. A good preventive against such attacks is to bring up a kitten in the loft, and when well grown it will keep out all the rats and mice, and being reared among the pigeons will never molest them and the pigeons in turn never seem afraid of the cat, although she may walk all about the nest-pans and young birds. Taken very small and kept always in the loft they seem to enjoy the company of the pigeons, and when full grown seem rather to prefer the loft to any other place. I have seen properly-educated cats quietly sleeping in a vacant nest, with the pigeons sporting all about it as unconcerned as though there were nothing but pigeons in the room. I was forcibly reminded of the scriptural prophecy of how the lion and the lamb should lie down together, and interested to note what training and association would do.



CHAPTER VIII.

PIGEONS AS FOOD.

As a delicate article of food, pigeons enter largely into the dietary of the human family. Especially is this so in the cities and larger towns. As many are aware, thousands of pigeons are sacrificed at the traps every year in testing the skill of the amateur sportsman. These pigeons, as a rule, go to the handler at the traps, and are by him gathered up and sent to market, where they are eagerly sought by stewards of the clubs and hotels, by buyers for restaurant use, and by caterers for the private family. Here they are served up in shape of pies, stews, broils, potted pigeon, and have even been known to do duty as broiled quail and woodcock, when the customer was not well up in the gastronomic arts.

The pigeons thus sacrificed while in the main composed chiefly of the common kind, frequently, however, have a sprinkling of birds of more aristocratic blood, that have unfortunately been born with blemishes so marked as to render them unsatisfactory to the fancier's eye. Being strong and lively they have been turned in with the common herd, on the principle that the money they would bring was of more value to the breeder than the satisfaction he would get from them when served up at his own table.

Consequently in all large lots we often find Antwerps, Magpies, Owls, Archangels, Swallows, and other good flying varieties that the experienced eye quickly detects, but that answer the purpose of the marksman as well as pigeons of a more plebeian origin, and that when

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placed in the market show no trace of their bluer blood. While full-grown pigeons find a ready market, especially when game is scarce, it is the squab about four to five weeks old that is most in demand and of which there is rarely a glut. That these can be raised at a profit there is no question, and how to do it is what we propose to show.

A loft or breeding-room, such as I have described for fancy pigeons will answer for squab raising also. The same care should be given in the matter of cleanliness, feeding, watering, bathing, and exercising, as with fancy pigeons, as the object is to induce the breeding birds to produce as many pairs in a season as possible, for herein lies all the profit of squab raising. In carrying out a systematic plan of breeding, the selection of breeders is a very important item and one it takes a little time to accomplish, for there are several points to consider in their selection. Throwing a lot of common birds promiscuously together into the breeding-room, while they will no doubt mate, breed, and produce squabs, is not the correct way to begin a successful career as a squab-raiser.

The first step I would advise after preparing the necessary accommodations, would be to select large, light-colored birds for breeders, as the squabs they will produce will be light-colored and bring at least 50 per cent more in market than squabs from small, dark-colored birds. Pure white birds for breeders would be the best, but it is not always possible to get a number of these together at first, but it should be the aim of the squab-raiser to work towards this end, so that in time his flock may be all white.

I have said light-colored birds; by that I mean those in which white as a color predominates. By large birds

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I do not wish to be understood as meaning Carriers, Pouters, or Runts, as they are, as a rule, poor breeders, although if Runts could be relied upon, they would produce a squab that would be far and away above all other squabs for table use; but by large birds I mean large-sized common pigeons, or crosses between common pigeons and some of the large birds. Persons living near large cities have opportunities for selections of such birds that persons remote from large places do not have, they being frequently found in the poultry and bird-stores as well as markets of these places.

But to start a flock, select the largest light-colored birds to be had in the country round about, then by introducing White Carriers, White Duchesse, and heavy-bodied White Pouters, a cross can be made that will eventually give just the size and kind of birds most desired for the purpose aimed at. Another step towards perfecting such a flock is the selection of the best feeders and most careful nurses among the lot, discarding all of the poor and unreliable feeders. These are soon learned and should be disposed of and their places supplied by others until the required number of proper quality is reached.

As I have said, it will take some time to accomplish this, but while working towards this end the enterprise can be made to pay its way, as some squabs will be raised even by poor feeders. Such an outfit as this connected with a poultry-farm, will add much to the income and be in a direct line with poultry breeding.

As with successful egg-farming, constant attention is required to see that the pigeons are living harmoniously together, that each pair keeps to its own locality, is feeding its young properly, and is regularly supplied with proper food and clean water. A flock of beautiful

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white pigeons, although of no particular variety, is a pretty sight about any home, and so the owner has not only a source of income but a constant source of pleasure in the pleasing addition they furnish to the home surroundings.

Squabs are most in demand during January, February, and March, and owing to their scarcity bring then the best prices of the year, say from \$3.50 to \$4 per dozen for nice, large, fat and light-colored birds. The time has been when they brought \$7 and \$8 per pair, but that was long ago, when every one had "money to burn." The advantage of raising light-colored squabs as against the darker ones can be seen in the great difference they command in price. Good, fat squabs should weigh from six to seven pounds to the dozen. In years gone by there was no systematic attention given to raising squabs for the market; they were picked up a few pairs here, and a few pairs there. Now there are those who make a regular business of it, keeping from 1,500 to 2,000 birds for breeders.

These are usually divided into colonies and treated much after the manner recommended in the first of this article. Squabs are sent to market in packages of one-half dozen each, undrawn or with their intestines undisturbed, usually packed in ice, and when held up for examination are suggestive of a delicacy that having once been tried is ever remembered. They are largely used for invalids who need tempting, appetizing, and delicate morsels, and that they fill the bill many young mothers can testify who, while convalescing, have found them to be the only food having any attraction for their fastidious appetites. By squabs is meant the young pigeon up to six or eight weeks old, nearly or quite feathered. But young pigeons are tender and delicate

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food up to six months old. After this, when they become mature and fitted for the duties of maternity, the meat becomes firmer and dryer. Although flying about and apparently of mature age, they may still utter the call of the squab known as "squealing," and at this time may be separated from the general flock and put through a course of fattening by which they are made as fat and delicate as though just from the nest.

The French are adepts in this practice, as they are also in the fattening of all poultry. The food generally given is millet, with a slight mixture of hemp-seed, tares, and very small peas. These are allowed to soak in water until swollen, when the expert takes a small quantity in his mouth, takes the young pigeon in his hand, inserting its bill into a corner of the mouth, and by the assistance of the tongue inducing it to take the softened grain. It is soon taught to enjoy this plan of feeding, and the crop is quickly filled.

Pigeons treated in this manner soon become plump and round and make most excellent eating. In place of millet, hemp, etc., the variety of oatmeal known as pin-head oatmeal, combined with coarsely ground cornmeal, would make superior material for such feeding.

They should be kept confined and not allowed to fly, and may be fed two or three times a day at regular intervals, experience teaching what intervals are most desirable. Persons desiring to pursue such a course of feeding, and living near large markets, could, by frequenting the wholesale departments during the summer and early fall, find plenty of material to experiment with, as every lot of pigeons sent to market at such times contains more or less young birds, and most of them could be greatly improved, in fact doubled in value, by a systematic course of feeding.

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A little experience will teach one to select the young pigeons, even though they have stopped squealing. A glance at the bill, the feet, or the plumage will soon determine the age. No doubt any one located so as to be able to collect these pigeons from the markets would find it more profitable than the business of raising the squabs from the egg. In fact, many of the pigeons fattened as I recommend could not be told from the squab just from the nest.

In this connection, it is interesting to note the ideas that people of one hundred years ago entertained regarding the edible and medicinal properties of pigeons. One writer says, "The flesh is not so easy of digestion as that of chickens," and another, "That the eating of their flesh is profitable against the plague, insomuch that they who make it their constant or ordinary food are seldom seized with pestilential distempers." Others commend it against the palsy or trembling, also say "It is of great use and advantage to them that are dim-sighted, and that the flesh of young pigeons is restorative and of good use to such as are in consumption, and to recruit the strength of such as are getting up or nearly recovered from some great sickness. It is indeed savory and good food, and not much inferior to the most esteemed."

For outward application they say, "That the anus of a live pigeon applied to the biting of a serpent, viper, or rattle-snake, draws away the poison and cures the sick, being renewed as often as the pigeon dies. Applied to the soles of the feet in a fever, it draws away the fever and helps the megrims or headache. Cut up alive and applied to the place pained, eases the pain and draws the malignity if any be; for the vital spirit yet remaining in the hot flesh and blood do insinuate themselves through the pores of the skin, into the blood of

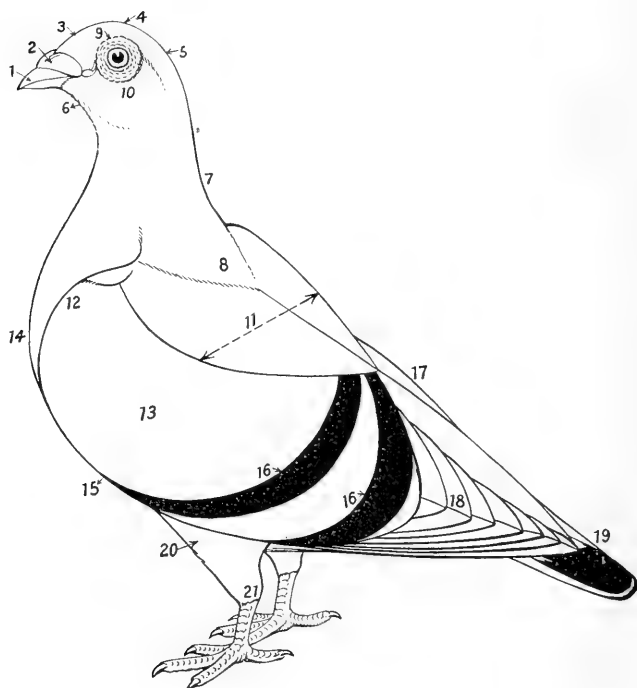
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the sick person, now dispirited and ready to stagnate, enduring it with new life and vigor."

This last is somewhat akin to the modern idea of transfusion of blood, and may have been the source from which this idea originated. Thus we see that long ago the pigeon was esteemed for its practical qualities and made more useful to mankind even than it is at present. As this ancient manner of applying the pigeon for curative purposes has long since passed into disuse, we have no way of proving the truth of these assertions except by an actual test, and until the test is made must accept these statements in good faith, believing the writers to have been honest in their convictions.



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POINTS OF A PIGEON.

- | | | |
|----------------------|------------------|------------------------|
| 1 Beak. | 8 Tippet. | 15 Keel. |
| 2 Wattle or Nostril. | 9 Eye Cere. | 16 Bars. |
| 3 Frontal. | 10 Cheek or Jaw. | 17 Rump. |
| 4 Occiput. | 11 Saddle. | 18 Flights (primaries) |
| 5 Back Skull. | 12 Shoulder. | 19 Tail. |
| 6 Throat. | 13 Sides. | 20 Thigh. |
| 7 Neck. | 14 Breast. | 21 Hock. |

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TECHNICAL TERMS.

ARROW-POINTED.—In the form of an arrow. Example, the penciling or lacing of a Blondinette.

BALD OR BALDHEAD.—The white head of a colored pigeon. Example, the Bald Tumbler.

BEARD.—A clearly defined V-shaped patch of white feathers on the throat, directly under the lower mandible. Example, the Long-faced Beard Tumbler.

BARS (wing).—The bands of black or other colors across the lower part of the wing. Example, the Blue Dragoon.

BAR (tail).—The colored band at extremity of tail.

BIB.—The colored feathering running in clearly defined outline below the head, along the throat and upper part of the breast. Example, the Nun.

BEETLE-BROW.—Overhanging eye-wattles, as seen in soft-eyed Carriers.

BLAZE.—A white mark on a colored pigeon (generally on the forehead.) Example, the Blaze-face.

BISHOPED.—A patch of white feathers at the butt end of the wing.

BOX-BEAK.—A beak both mandibles of which are uniform in strength and shape and close fitting. Example, the Carrier.

BULL-EYE.—An eye, the iris, as well as the pupil of which, is very dark in color. Example, the White Dragoon.

BOLTING-EYE.—An eye that is prominent, wild looking, and staring. Example, a young Carrier.

BARREL-HEADED.—An elongated skull, free from angles. Example, the Show Homer.

BROKEN (in feather).—An indiscriminate mixture of

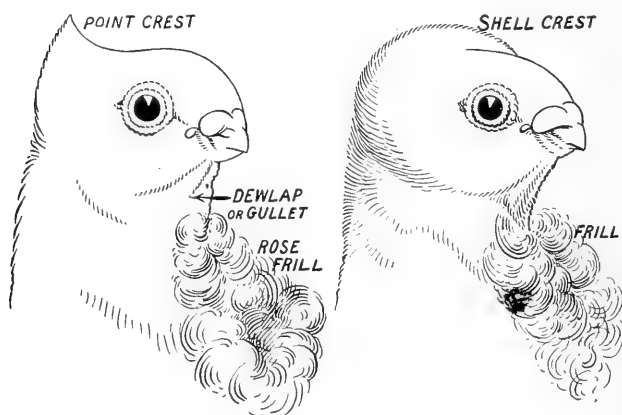
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variously colored feathers. Example, the Almond Tumbler.

BROKEN (in eye).—An erratic coloring of the iris.

CAP.—A colored covering at the top of the head above the eye. Example, the Swallow.

CERE.—The skin-like substance around the eye. Example, the Dragoon.



CHAIN.—An inverted growth of feathering on each side of the neck. Example, the Jacobin.

CHUCK.—The V-shaped patch of white under the lower mandible. Example, the Beard Tumbler.

CHEQUER.—Two distinct shades of one color. Example, the Chequered Dragoon.

CRESCENT.—A half-moon shaped mark upon the breast. Example, the Suabian.

CREST.—An inverted growth of feathers at the back of the head. Example, the Turbit.

CROP.—The craw or stomach.

CLEAN-LEG.—Free from feathering below the hock.

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CLEAN-CUT.—Evenly defined.

DOWN-FACED.—Downward contortion of the beak.

DEWLAP.—(See Gullet).

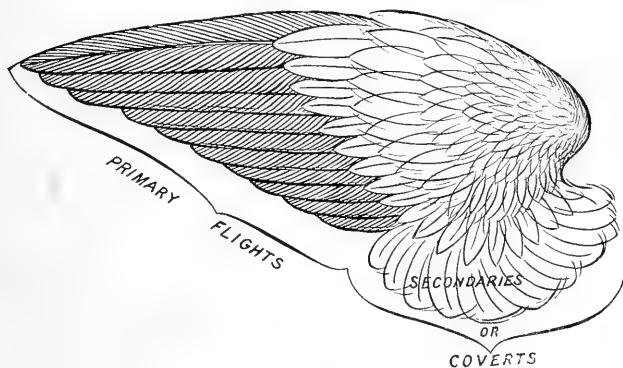
CARRIAGE.—The natural position of a pigeon.

CONDITION.—Robust health and perfection of plumage.

EYE-WATTLE.—The fleshy excrescence around the eye (chiefly applied to Carriers and Barbs).

FRILL.—A fringe of feathers on the breast growing in inverted position from the throat downwards. Example, the Turbit.

FEATHER-LEGGED.—Feathered below the hocks. Example, the Blondinette.



FLIGHTS (outer or primary).—The first ten feathers of each wing.

FLIGHTS (inner or secondary).—The remaining long feathers of the wing.

FOUL-THIGHED.—Colored feathers on white thighs.

FROG-SHAPED.—Depressed in crown, but free from angles and not flat.

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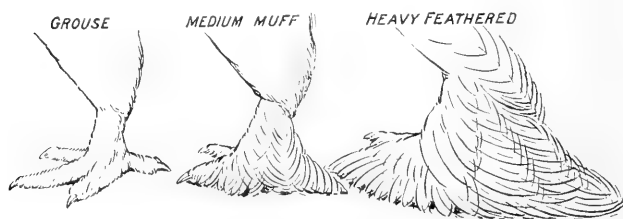
GAY.—Showing too much white (as applied to the crop markings of a Pouter, and the shoulder-markings of a Mottled Tumbler).

GIRTH.—The waist of the Pouter.

GULLET.—An abnormal development of loose skin extending from the lower mandible to the top of the neck. Example, the Owl.

HACKLE.—The lower feathers at the back of the neck.

HANDKERCHIEF MARKINGS.—A triangular shaped patch of white feathers on the back of a colored pigeon. Example, the Mottled Tumbler.



HOOD.—The upper covering of the head. Example, the Jacobin.

JEW-WATTLE.—The wattle on the lower mandible.

KEEL.—The lower part of the breast.

LACING OR PENCILING.—Clearly defined markings, round the outer edge of a feather. Example, the Blondinette.

LIMB.—The leg and thigh (as applied to the Pouter.)

MANDIBLE.—A portion of the beak.

MANE.—The ridge of feathers at the back of the neck. Example, the Jacobin.

MEALY.—Undecided color, generally applied to Silver-Dun Antwerps and Homers.

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MUFFED.—A covering of feathers on the hocks, legs and feet. Example, the Trumpeter.

PEAK.—Pointed feathers at the back of the head. Example, the Turbit.

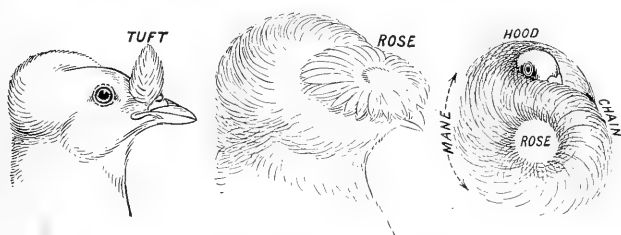
PINCHED-EYED.—Irregularity of outline (as applied to the eye-cere or eye-wattle). Example, the Dragoon.

PROFILE.—The side face.

ROSE (head).—The feathering on the frontal of the Trumpeter.

ROSE (breast).—The rose-like feathering on the breast of the Owl.

ROSE (feather).—The shoulder-markings of the Pou-



ter, Mottled Trumpeter, and Tumbler; the same term is also applied to the radiating point of the hood, mane and chain of the Jacobin.

ROSETTE.—Feathering on the breast, in the form of a rose. Example, the Owl.

SHELL.—The shell-shaped growth of feathers at the back of the head. Example, the Swallow.

SNAKEY.—Serpentine in shape. Example, the head and neck of the Magpie.

SNIP.—A clearly-defined, elongated spot of white, generally on the forehead. Example, the Snip (German Toy).

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SADDLE.—The upper portion of the back.

STOP.—An abrupt termination of the skull at the base of the beak. Example, the Short-faced Tumbler.

SKULL.—The upper portion of the head.

SHOD.—(As applied to the Fantail), deflecture of the lower feathers of the tail.

SPANGLED.—A “broken” arrangement of feathering.

SPLASH.—An indiscriminate mixture of several colors. Example, the Splash Short-faced Tumbler.

SPOT.—A colored mark on a white pigeon, generally on the frontal or forehead.

SOLID COLOR.—(See self-color).

SQUAB.—A very young pigeon, unfeathered.

SQUEAKER.—A (feathered) young pigeon, just learning to feed.

STOCKINGS.—The feathering on the thighs and legs. Example, the Pouter.

SLOBBERED (as applied to the cut of a Baldhead Tumbler).—Indistinct and uneven.

SELF-COLORED.—One color only.

SPINDLE-BEAKED.—A beak that is long and thin.

TUFT.—An inverted growth of feathers behind the wattle. Example, the Priest.

TOYS.—Varieties of which color and markings are the chief properties.

VENT.—The passage from the body.

VEIL.—Applied to the head-markings of the Nun.

WATTLE (beak).—The fleshy excrescence on the beak.

WHISKERS.—The feathers between the root of the beak and the base of the eye.

WHOLE FEATHER.—A self-colored pigeon.



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